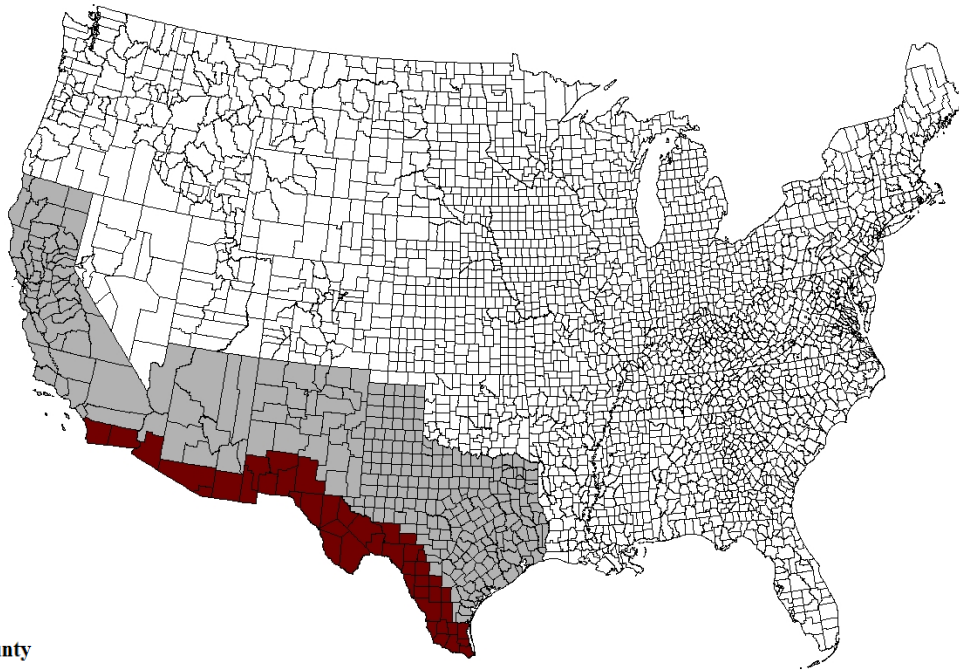





# RURAL BORDER HEALTH CHARTBOOK

## II



-  Border County
-  Non-border County, Border State
-  Other U.S. County



# **RURAL BORDER HEALTH**

## **CHARTBOOK II**

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## Introduction

### **Purpose of Chartbook**

The forty-four U.S. counties in states that adjoin the border with Mexico (Arizona, California, New Mexico and Texas) share many health concerns with corresponding counties in Mexico. The U.S.-Mexico Border Health Commission established health goals for the region, in which eight of ten leading causes of death are the same across both countries.<sup>1</sup> Within the U.S. Department of Health and Human Services, the Office of Rural Health Policy is responsible for facilitating intra-agency border health activities and addressing collaboration across programs to leverage resources and services of the Health Resources and Services Administration along the border.

Much of the existing literature pertaining to health outcomes and health services utilization among U.S. residents along the border are single state studies,<sup>2</sup> address even smaller geographies such as a small group of counties<sup>3</sup> or focus on single disease topics.<sup>4</sup> The 2010 review of border health issues developed by the U.S.-Mexico Border Health Commission, while providing broad discussion of key topics, did not differentiate between rural and urban counties within the region.<sup>5</sup> To carry out its mission of facilitating border health, the Office of Rural Health Policy needs additional health and health service use indicators. Thus, the South Carolina Rural Health Research Center (SCRHRC) developed the *Rural Border Health Chartbook*,<sup>6</sup> which combined information from a variety of standardized federal data sets to provide a comprehensive examination of health disparities among border counties. The *Rural Border Health Chartbook II* complements the prior chartbook by tapping county-level data sources to explore additional disparities present within the region.

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<sup>1</sup> United States-Mexico Border Health Commission (USMBHC) (2003). Healthy Border 2010: An Agenda for Improving Health on the United States-Mexico Border.

<sup>2</sup> Bastida E, Brown HS 3rd, Pagán JA. Persistent disparities in the use of health care along the US-Mexico border: an ecological perspective. *Am J Public Health*. 2008 Nov;98(11):1987-95.

<sup>3</sup> Rosales C, Ortega MI, De Zapien JG, Paniagua AD, Zapien A, Ingram M, Aranda P. The US/Mexico border: a binational approach to framing challenges and constructing solutions for improving farmworkers' lives. *Int J Environ Res Public Health*. 2012 Jun; 9(6):2159-74.

<sup>4</sup> Coughlin SS, Richards TB, Nasseri K, Weiss NS, Wiggins CL, Saraiya M, Stinchcomb DG, Vensor VM, Nielson CM. Cervical cancer incidence in the United States in the US-Mexico border region, 1998-2003. *Cancer*. 2008 Nov 15;113(10 Suppl):2964-73.

<sup>5</sup> United States-Mexico Border Health Commission. Border Lives: Health Status in the United States-Mexico Border Region. April, 2010. Available at [http://www.borderhealth.org/files/res\\_2213.pdf](http://www.borderhealth.org/files/res_2213.pdf)

<sup>6</sup> Martin BA, Torres M, Vyavaharkar M, Chen Z, Towne S, Probst JC. *Rural Border Health Chartbook*. South Carolina Rural Health Research Center, September 2012. Available at [http://rhr.sph.sc.edu/report\\_by\\_date.html](http://rhr.sph.sc.edu/report_by_date.html)

## Chartbook Methodology

The chartbook presents a cross-sectional analysis of border counties, urban and rural, comparing these counties to other counties within the four border states (Arizona, California, New Mexico and Texas) and to rural and urban counties in the rest of the U.S.

*Data Sources:* County data on population characteristics, health resources and documented health outcomes were drawn from the Robert Wood Johnson County Health Rankings (RWJ-CHR) data file. This RWJ-CHR project assembles county-level data from multiple federal and non-federal sources including the Centers for Disease Control and Prevention (Behavioral Risk Factor Surveillance System, vital statistics, chronic and communicable disease information), Census (American Community Survey; County Business Patterns), the Department of Agriculture (Food Environment Atlas), the Dartmouth Atlas and others. For several topics, the data were compiled by the sponsoring agency for the RWJ-CHR project and are not available elsewhere. RWJ-CHR data are available for download; we used the 2013 data release. Because RWJ-CHR data set summarizes information across varying time periods—multiple years may be needed to generate rates for rare events such as infant mortality—we indicate the actual date of the data used in each chart. The County Health Rankings data were supplemented with additional information drawn from the U.S. Census American Community Survey, the U.S. Department of Agriculture Food Atlas and the U.S. Department of Agriculture Economic Research Service Geography of Poverty dataset.

We examined county-level rates and statistics for socio-demographic, physical environment, access to care and health outcomes topics including:

Socio-demographic: race/ethnicity of county populations, English proficiency, education, unemployment rate, median household income, housing deficiencies, households without vehicles available, children in poverty, children in single-parent homes, children eligible for free/reduced lunch, percent of population that are SNAP participants, food insecurity rates, violent crime rate

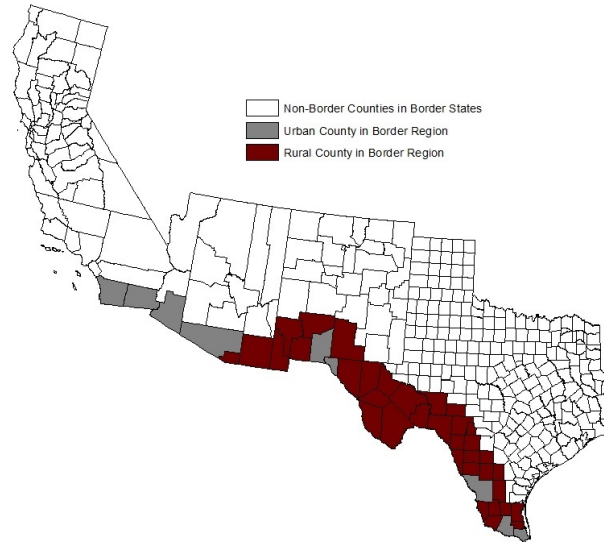
Physical environment: access to recreational facilities and parks, access to healthy food and fast food outlets

Access to care: mental health provider/population ratio, dentist/population ratio, primary care physician/population ratio, uninsured populations, proportion who could not access care due to cost

Health outcomes: HIV rates, chlamydia rates, teen birth rates, proportion of low weight births, infant and child mortality rates, injury death rates, motor vehicle crash death rate, ambulatory care sensitive condition hospital stays, years of potential life lost (estimated years at the county level)

## Overview of the Border Region

The four border states, Arizona, California, New Mexico and Texas, are shown in the map below. Using 2003 Urban Influence Codes (UIC), we distinguished between metropolitan or urban counties (UIC 1-2) and rural counties (UIC 3-12). Based on this definition, there were 35 rural and nine urban border counties. Tabular presentations comparing border counties to other counties in border states and to other U.S. rural and urban counties were prepared for each of the demographic characteristics and health outcomes studied.

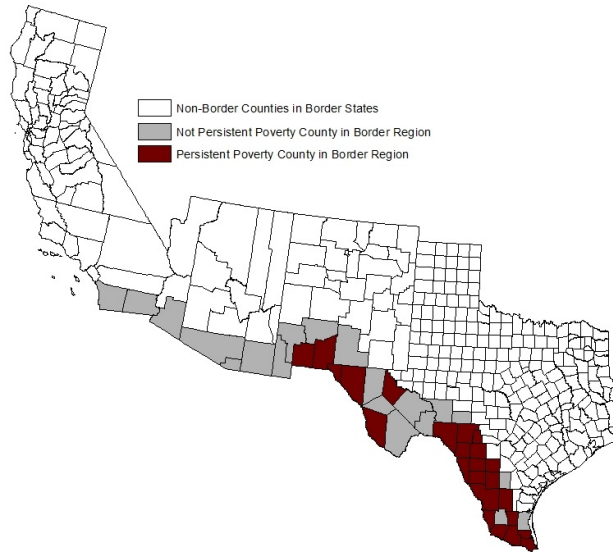


Adding to its diversity, the border region houses a number of tribal jurisdictions. The map below, created by the United States Environmental Protection Agency's U.S.-Mexico Border 2020 Program, illustrates the U.S. tribal communities located within the U.S.-Mexico border region.<sup>7</sup>



<sup>7</sup> Map source: <http://www2.epa.gov/border2020>

Finally, half of the 44 border counties are designated as persistent poverty counties by the United States Department of Agriculture Economic Research Service. Persistent poverty counties are those in which more than 20 percent of the population has lived in poverty over the last 30 years. This measurement used the 1980, 1990, and 2000 decennial Censuses, along with the 2007-2011 American Community Survey 5-year estimate.

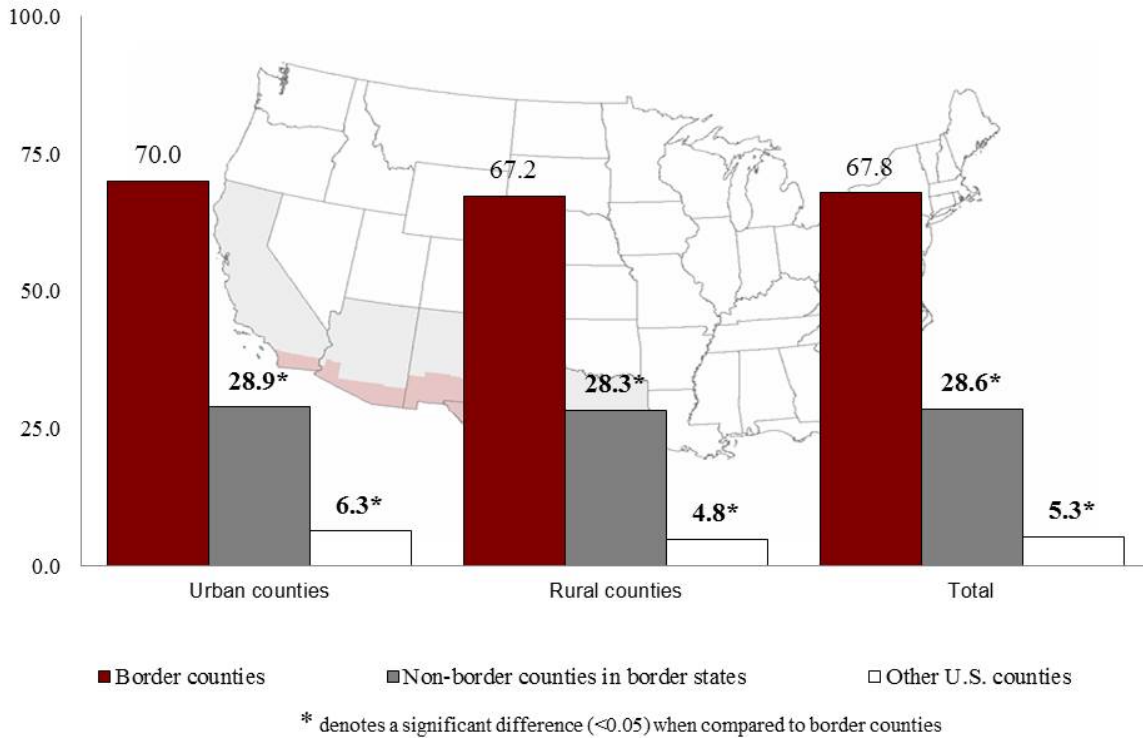


*Limitations:* As with any secondary data analysis, the information presented in the chartbook has several limitations. First, the chartbook presents an ecological analysis at the county level. Thus, charts and tables present the arithmetic average of a measure across all counties, not the experience of all persons living in the border area. County values are not weighted for population size; a small county and a large urban county would each contribute equally to the overall average. Second, without individual data available, we could not distinguish between health outcomes of white versus minority residents. Finally, due to small population size in some rural counties in border states, it was not feasible to include all counties in the analysis for all measures. Events that are low-frequency may not generate enough observations for valid county rates. Five-year infant mortality, for example, is not available for all Texas counties.



**Demographics – Percent Hispanic**

**Percent Hispanic Residents, by Rurality, 2011**



Rural and urban border counties had a *significantly higher proportion* ( $p < 0.05$ ) of Hispanic residents than other counties in border states or other U.S. counties.

**Table 1. Percent of Hispanic Residents, by Rurality and County Border Indication, 2011**

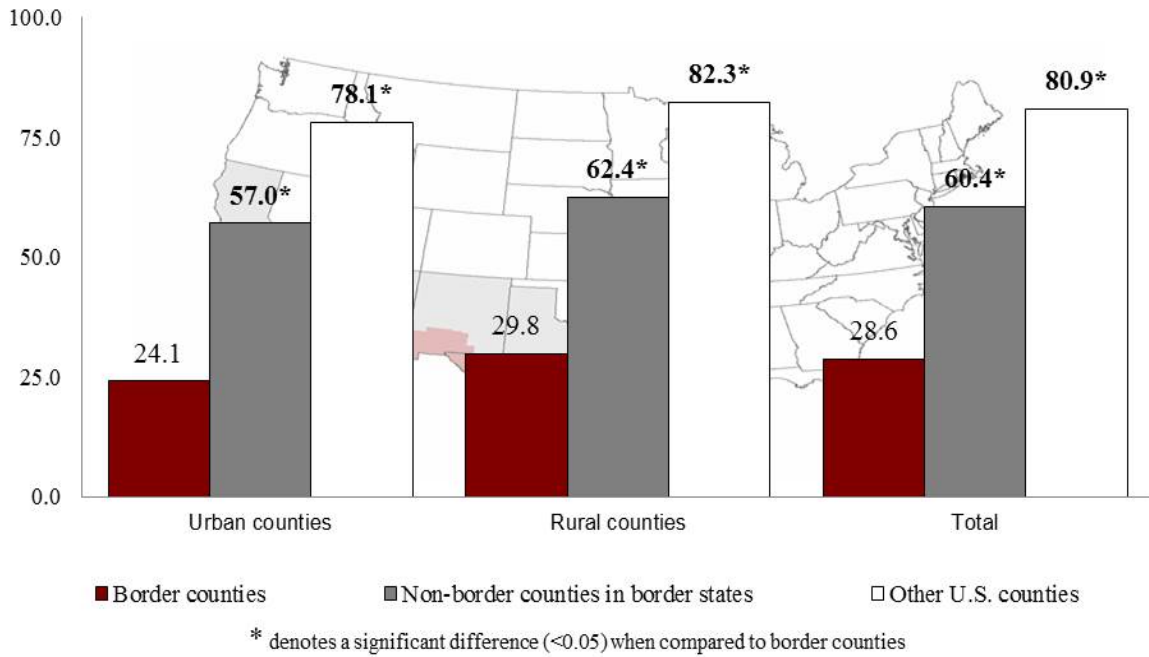
Area of Residence	County Border Indication			<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	70.0%	<b>28.9%</b>		<0.0001	<b>6.3%</b>	<0.0001
Rural	67.2%	<b>28.3%</b>		<0.0001	<b>4.8%</b>	<0.0001
Total	67.8%	<b>28.6%</b>		<0.0001	<b>5.3%</b>	<0.0001

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011 Census Population Estimates

## Demographics – Percent Non-Hispanic White

### Percent of Non-Hispanic White Residents, by Rurality, 2011



The border counties had a *significantly lower proportion* ( $p < 0.05$ ) of non-Hispanic white residents than other counties in the four border states or other U.S. counties. This was true for rural and urban counties in both comparison groups.

**Table 2. Percent of Non-Hispanic White Residents, by Rurality and County Border Indication, 2011**

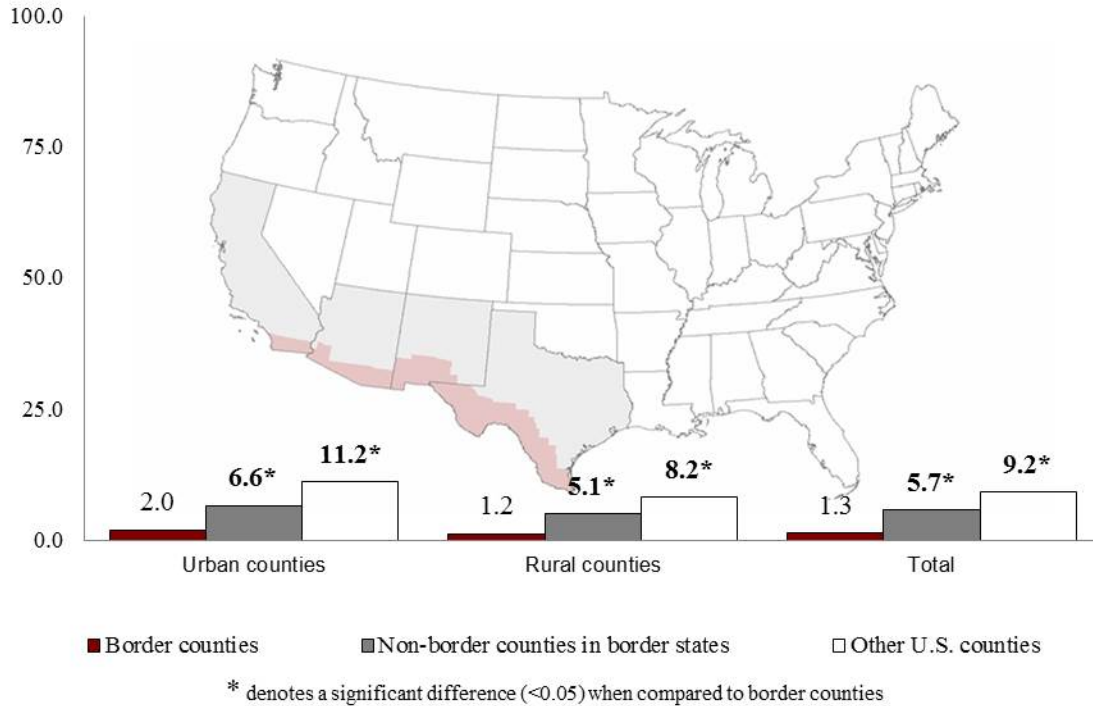
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	24.1%	<b>57.0%</b>	<i>&lt;0.0001</i>	<b>78.1%</b>	<i>&lt;0.0001</i>
Rural	29.8%	<b>62.4%</b>	<i>&lt;0.0001</i>	<b>82.3%</b>	<i>&lt;0.0001</i>
Total	28.6%	<b>60.4%</b>	<i>&lt;0.0001</i>	<b>80.9%</b>	<i>&lt;0.0001</i>

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011 Census Population Estimates

## Demographics – Percent Non-Hispanic African American

**Percent of Non-Hispanic African American Residents, by Rurality, 2011**



Border counties in Arizona, California, New Mexico and Texas had a *significantly lower proportion* ( $p < 0.05$ ) of non-Hispanic African American residents than non-border counties throughout the United States. This was true within both rural and urban counties as well as for the border area as a whole.

**Table 3. Percent of Non-Hispanic African American Residents, by Rurality and County Border Indication, 2011**

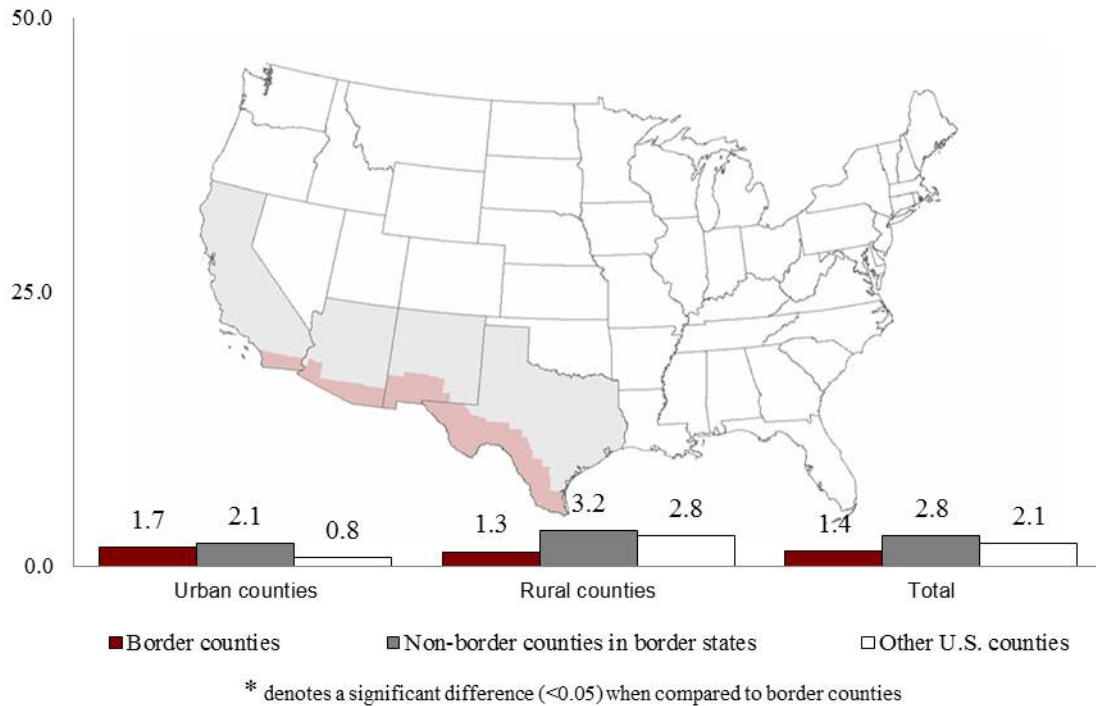
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	2.0%	<b>6.6%</b>	<i>0.0340</i>	<b>11.2%</b>	<i>0.0433</i>
Rural	1.2%	<b>5.1%</b>	<i>0.0001</i>	<b>8.2%</b>	<i>0.0068</i>
Total	1.3%	<b>5.7%</b>	<i>&lt;0.0001</i>	<b>9.2%</b>	<i>0.0004</i>

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011 Census Population Estimates

**Demographics – Percent American Indian/Alaskan Native**

**Percent of American Indian/Alaskan Native Residents, by Rurality, 2011**



No significant differences in the proportions of American Indian/Alaskan Native residents in border counties versus other counties were observed in the analysis.

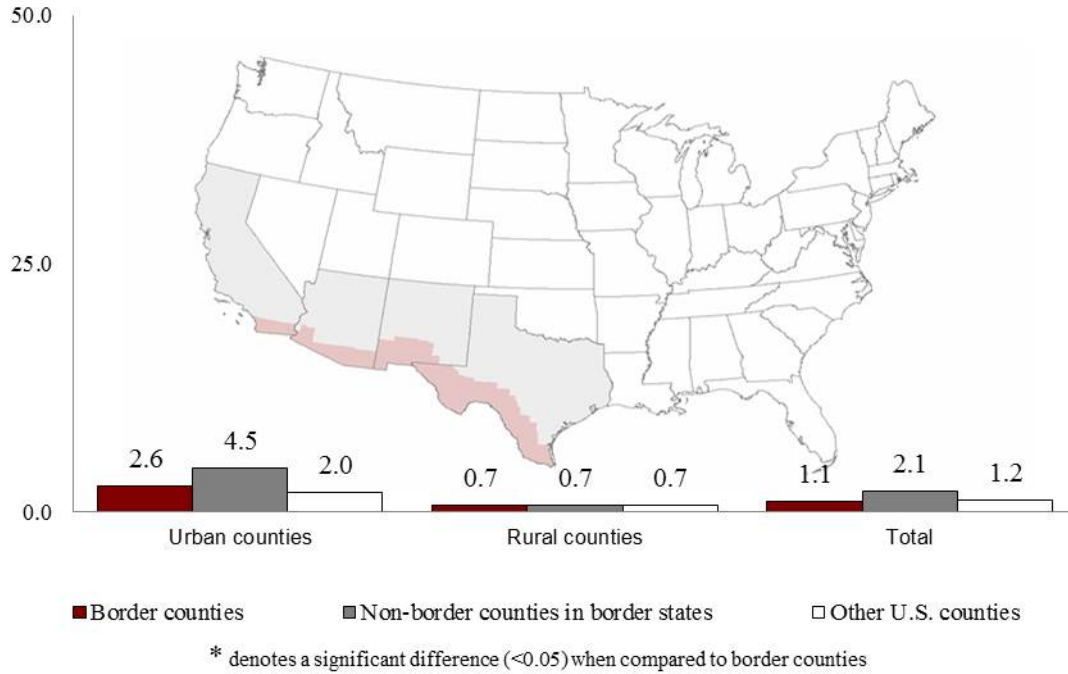
**Table 4. Percent of American Indian / Alaskan Native Residents, by Rurality and County Border Indication, 2011**

Area of Residence	County Border Indication			p-value, A to B	Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	1.7%	2.1%	0.7624	0.8%	0.1128	
Rural	1.3%	3.2%	0.2085	2.8%	0.3578	
Total	1.4%	2.8%	0.2140	2.1%	0.5398	

Data Source: 2011 Census Population Estimates

**Demographics – Percent Asian**

**Percent of Asian Residents, by Rurality, 2011**



No significant differences in the proportion of Asian residents between border counties and other counties were observed.

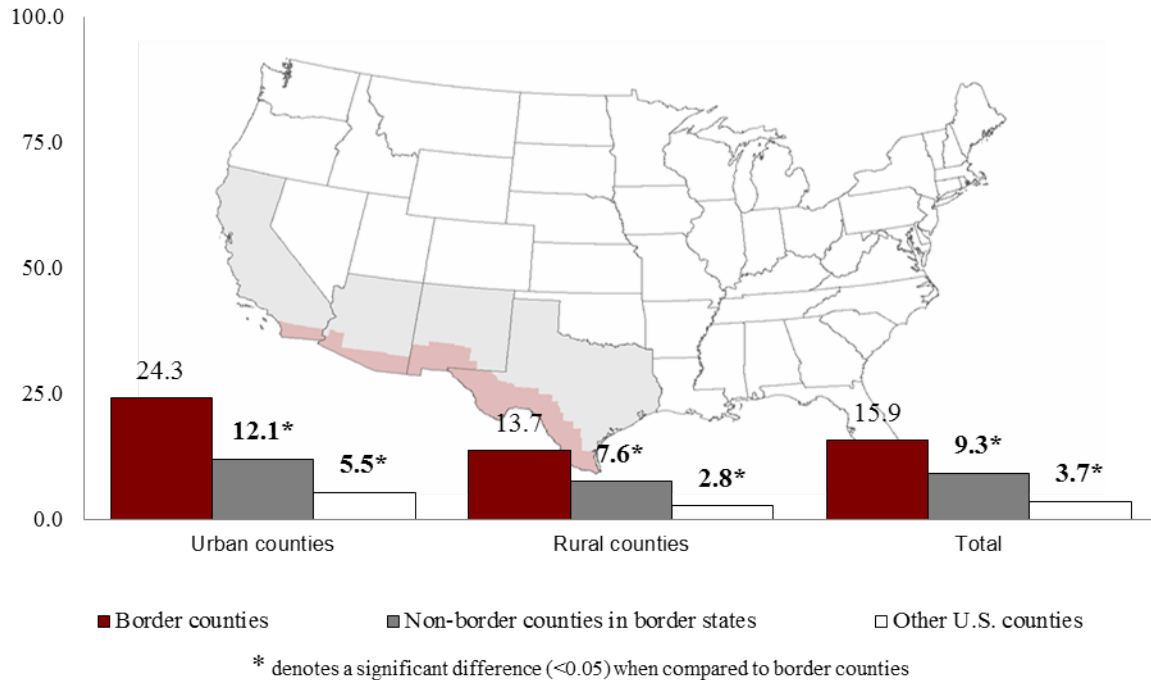
**Table 5. Percent of Asian Residents, by Rurality and County Border Indication, 2011**

Area of Residence	County Border Indication			p-value, A to B	Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	2.6%	4.5%		0.3605	2.0%	0.5972
Rural	0.7%	0.7%		0.8866	0.7%	0.9441
Total	1.1%	2.1%		0.1090	1.2%	0.7843

Data Source: 2011 Census Population Estimates

**Demographics - Percent of Residents Born Outside the U.S.**

**Percent of Residents Born Outside the U.S., by Rurality, 2012**



Border counties in Arizona, California, New Mexico and Texas had a *significantly higher* proportion of residents born outside the U.S. than non-border counties in the same states and other counties throughout the nation. This is true for both urban and rural counties.

**Table 6. Percent of Residents Born Outside the U.S., by Rurality and County Border Indication, 2012**

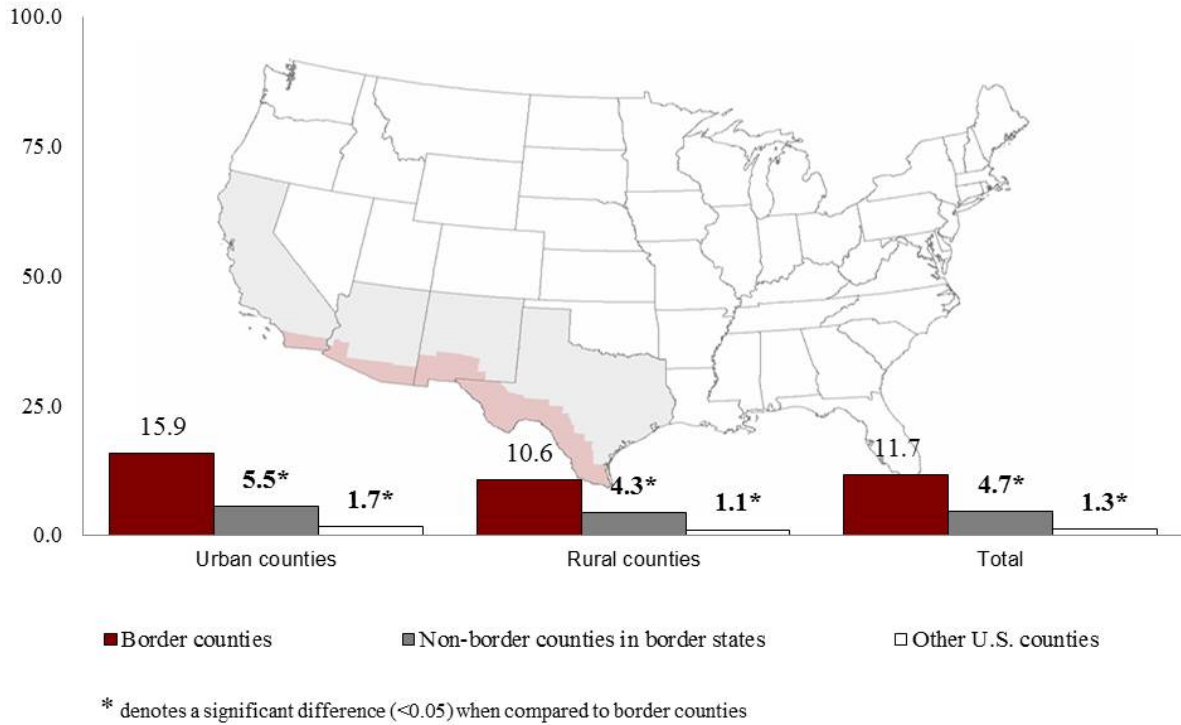
Area of Residence	County Border Indication			p-value, A to B	Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	24.3	<b>12.1</b>		<0.0001	<b>5.5</b>	<0.0001
Rural	13.7	<b>7.6</b>		<0.0001	<b>2.8</b>	<0.0001
Total	15.9	<b>9.3</b>		<0.0001	<b>3.7</b>	<0.0001

Bold numbers indicate significant differences at p<0.05 when compared to border counties

Data Source: 2008-2012 American Community Survey, U.S. Census Bureau

## Demographics - Percentage of Individuals Not Proficient in English

Percent of Residents Not Proficient in English, by Rurality, 2007-2011



The proportion of adults lacking English proficiency was *significantly higher* in border counties ( $p < .0001$ ) than in their non-border peer counties. This was true for urban and rural counties.

**Table 7. Percent of Residents Not Proficient in English, by Rurality and County Border Indication, 2007-2011**

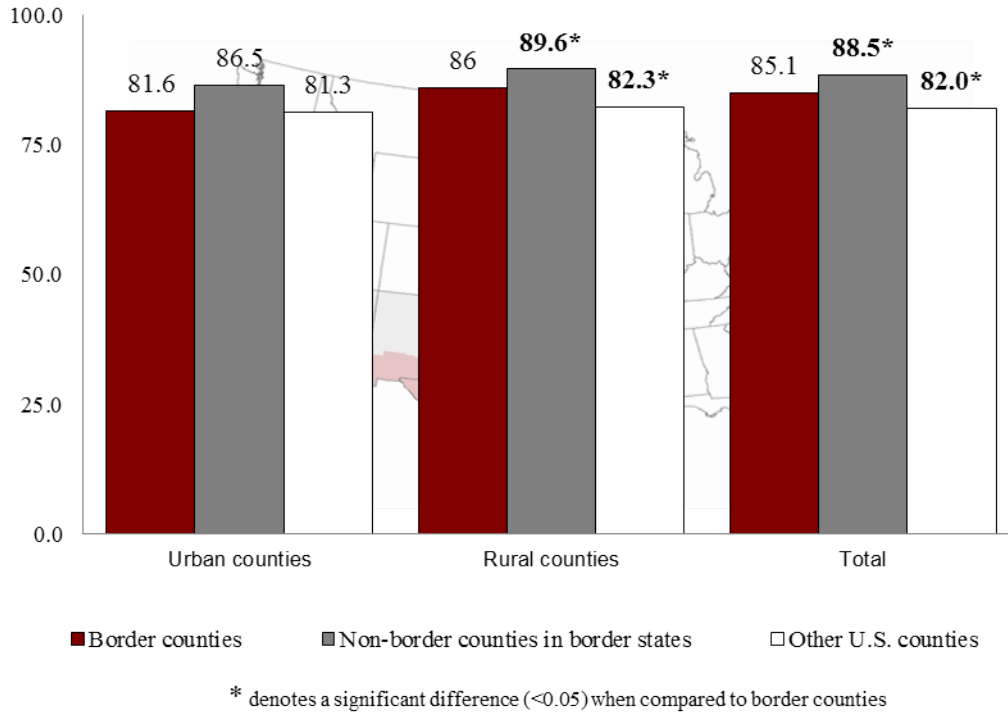
Area of Residence	County Border Indication			Other U.S. Counties (C)	<i>p-value, A to C</i>
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>		
Urban	15.9%	<b>5.5%</b>	<i>&lt;0.0001</i>	<b>1.7%</b>	<i>&lt;0.0001</i>
Rural	10.6%	<b>4.3%</b>	<i>&lt;0.0001</i>	<b>1.1%</b>	<i>&lt;0.0001</i>
Total	11.7%	<b>4.7%</b>	<i>&lt;0.0001</i>	<b>1.3%</b>	<i>&lt;0.0001</i>

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2007-2011 American Community Survey, 5-year estimates

**Social & Economic Factors - Percentage of Adults Graduated from High School**

**Percent of Residents with a High School Diploma, by Rurality, Various Years**



Within border states, a *significantly lower proportion* ( $p < 0.05$ ) of border county adults had graduated from high school compared to other border state counties. However, for rural border counties and border counties as a whole, a *significantly higher proportion* ( $p < 0.05$ ) of residents had graduated when compared to other U.S. counties. No differences were observed for urban counties regardless of residence. Rural counties accounted for the differences observed overall.

**Table 8. Percent of Residents who have Graduated High School, by Rurality and County Border Indication**

Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	81.6%	86.5%	<i>0.0720</i>	81.3%	<i>0.9281</i>
Rural	86.0%	<b>89.6%</b>	<i>0.0286</i>	<b>82.3%</b>	<i>0.0344</i>
Total	85.1%	<b>88.5%</b>	<i>0.0167</i>	<b>82.0%</b>	<i>0.0394</i>

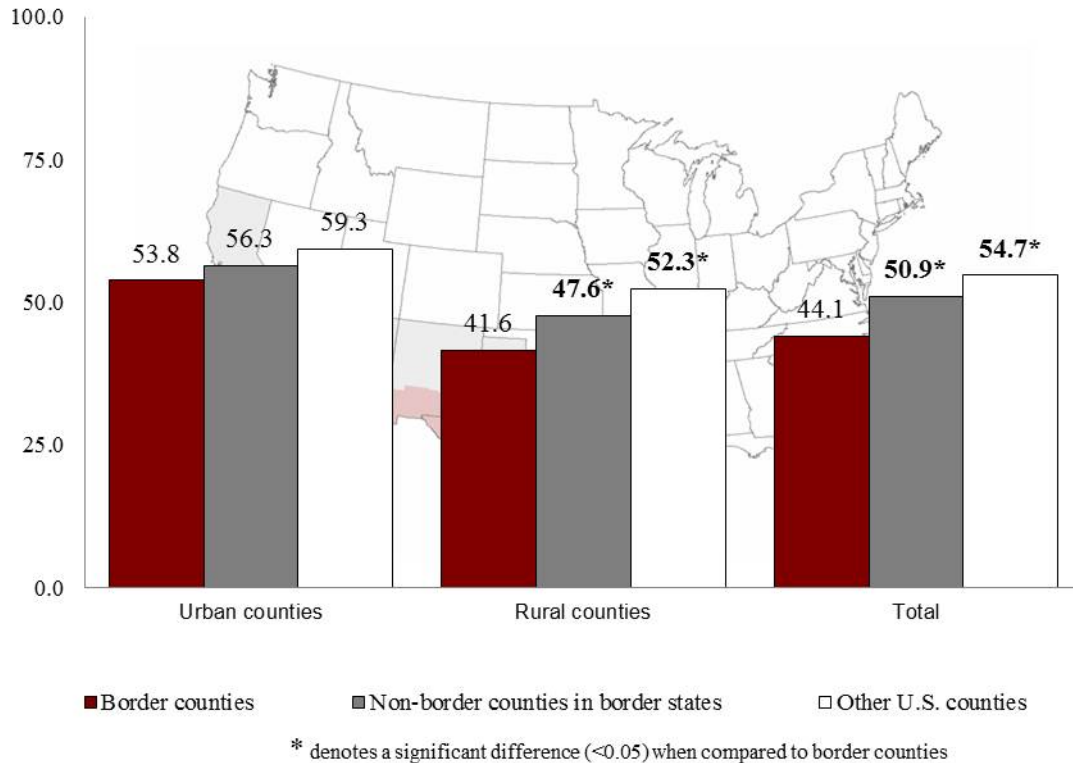
Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: Varies by state; state sources and the National Center for Education Statistics



## Social & Economic Factors - Percentage of Adults with Post-Secondary Education

Percent of Adult Residents with Post-Secondary Education, by Rurality, 2007-2011



A significantly lower proportion ( $p < 0.05$ ) of rural border county residents 25 to 44 years of age had received some post-secondary education compared to their border state peers. (“Post-secondary” includes all persons with post high school education or training, not just college graduates.) The same was true when compared to other U.S. counties. No differences were observed for urban counties regardless of border county indication.

Table 9. Percent of Adult Residents with Post-Secondary Education, by Rurality and County Border Indication, 2007-2011

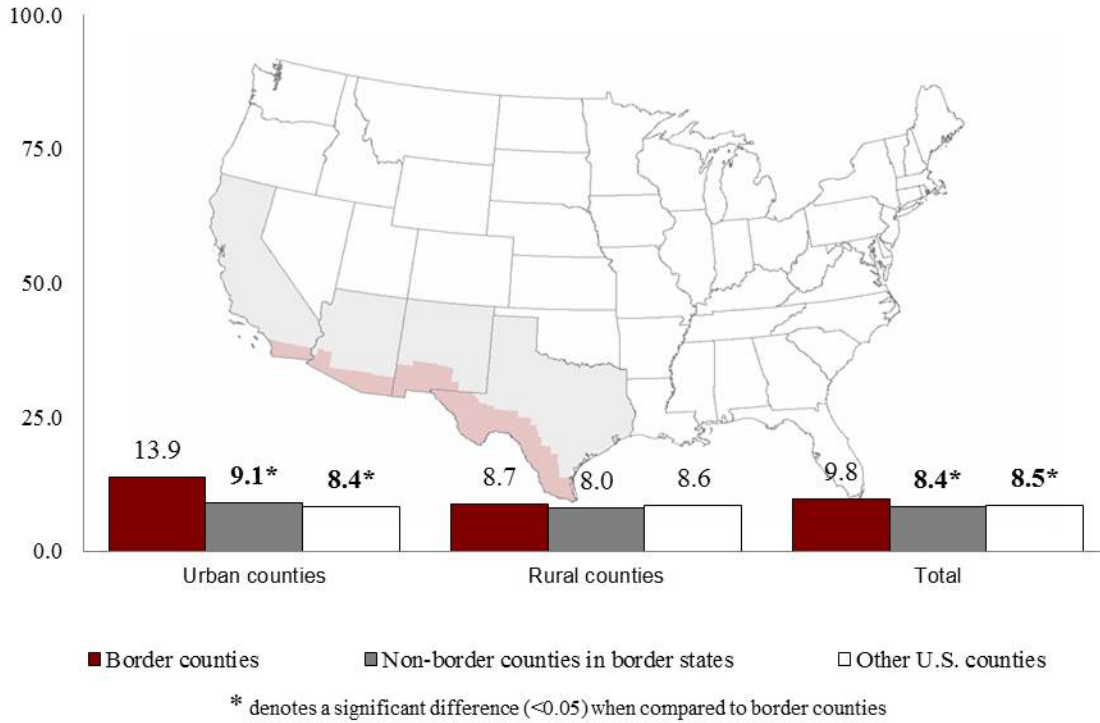
Area of Residence	County Border Indication			Other U.S. Counties (C)	<i>p-value, A to C</i>
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>		
Urban	53.8%	56.3%	0.4901	59.3%	0.1483
Rural	41.6%	<b>47.6%</b>	0.0017	<b>52.3%</b>	<0.0001
Total	44.1%	<b>50.9%</b>	0.0002	<b>54.7%</b>	<0.0001

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2007-2011 American Community Survey, 5-year estimates

**Social & Economic Factors - Percentage of Individuals Unemployed**

**Percent of Unemployed Residents, by Rurality, 2011**



A significantly higher proportion ( $p < 0.05$ ) of urban border residents were unemployed compared to their state peers or other U.S. counties. No differences were observed for rural counties regardless of their border county indication.

**Table 10. Percent of Unemployed Residents, by Rurality and County Border Indication, 2011**

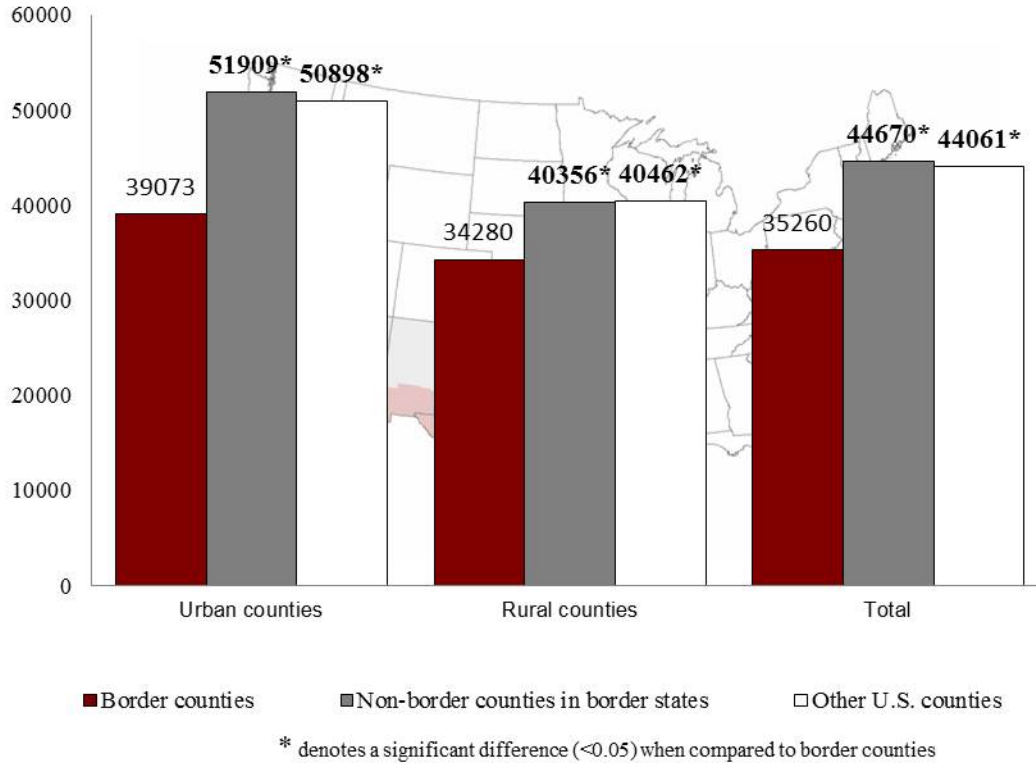
Area of Residence	County Border Indication			Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)	p-value, A to B		
Urban	13.9%	<b>9.1%</b>	0.0003	<b>8.4%</b>	<0.0001
Rural	8.7%	8.0%	0.2301	8.6%	0.8379
Total	9.8%	<b>8.4%</b>	0.0185	<b>8.5%</b>	0.0058

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011 Bureau of Labor Statistics

## Social & Economic Factors - Median Household Income

### Median Household Income, by Rurality, 2011



Median household income was *significantly lower* for border counties than for other U.S. counties including non-border counties in Arizona, California, New Mexico and Texas. This difference was found for both rural and urban counties.

**Table 11. Median Household Income, by Rurality and County Border Indication, 2011**

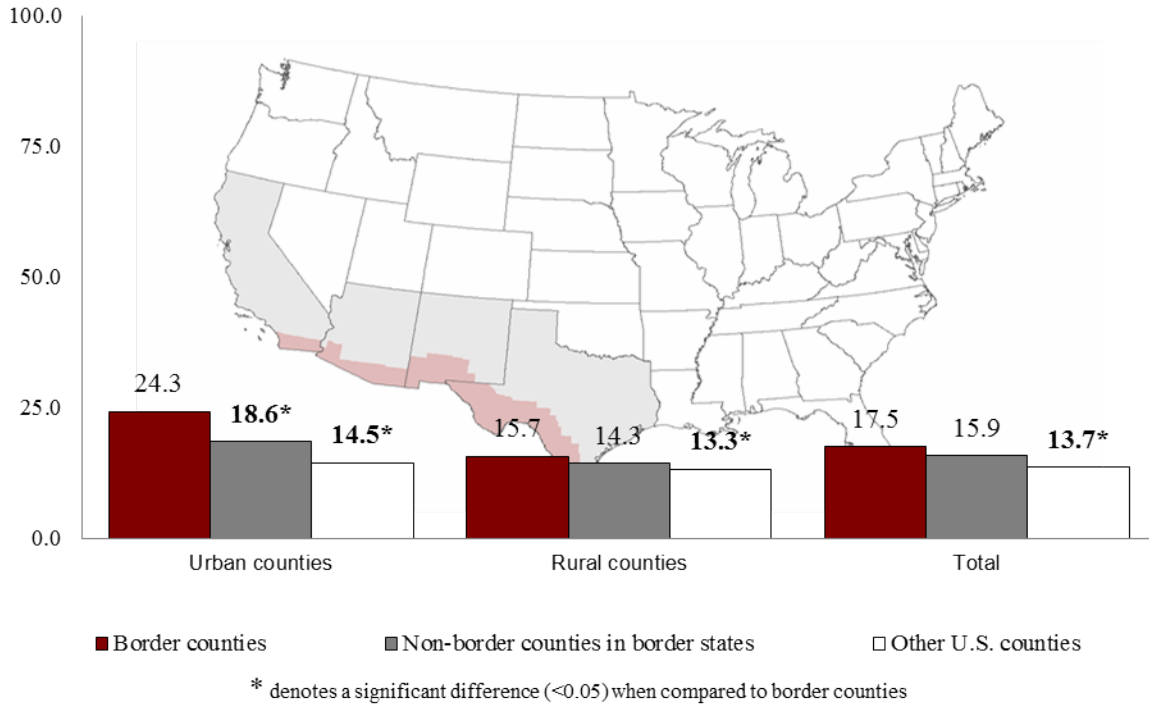
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	\$39,073	<b>\$51,909</b>	0.0017	<b>\$50,898</b>	0.0067
Rural	\$34,280	<b>\$40,356</b>	<0.0001	<b>\$40,462</b>	<0.0001
Total	\$35,260	<b>\$44,670</b>	<0.0001	<b>\$44,061</b>	<0.0001

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011 Small Area Income and Poverty Estimates

**Social & Economic Factors – Percent of Houses with Severe Housing Deficiencies**

**Percent of Houses with Severe Housing Deficiencies, by Rurality, 2008-2012**



Urban border counties had *significantly higher* proportions of houses with severe housing deficiencies, defined as one or more of four indicators (overcrowding, high housing costs, or lack of kitchen or plumbing facilities), when compared to both non-border counties in border states and other U.S. counties. Rural border counties had *significantly higher* proportions of houses with severe housing deficiencies than other U.S. counties but did not differ from other rural counties in border states. Overall, border counties had a *significantly higher* proportion of housing with severe deficiencies than other U.S. counties.

**Table 12. Percent of Households with Severe Housing Deficiencies, by Rurality and County Border Indication, 2008-2012**

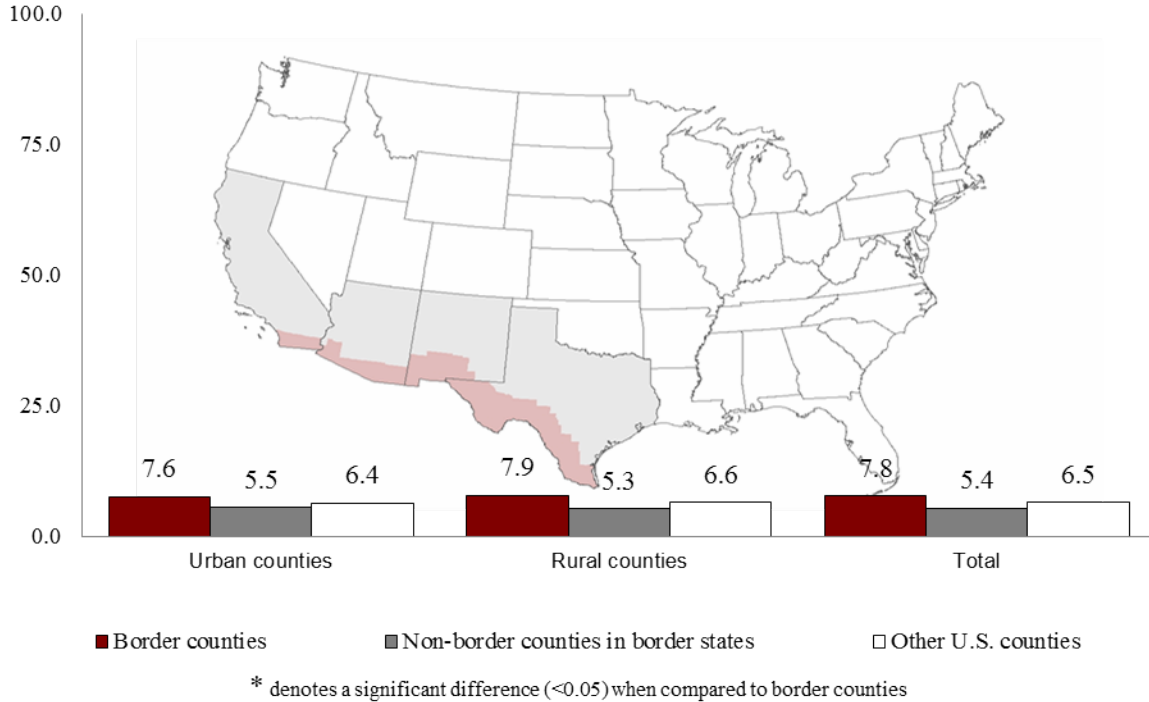
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	24.3	<b>18.6</b>	<i>0.0062</i>	<b>14.5</b>	<i>&lt;0.0001</i>
Rural	15.7	14.3	<i>0.1061</i>	<b>13.3</b>	<i>0.0037</i>
Total	17.5	15.9	<i>0.0873</i>	<b>13.7</b>	<i>&lt;0.0001</i>

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2008-2012 American Community Survey, U.S. Census Bureau

**Social & Economic Factors – Percent of Households with No Vehicle Available**

**Percent of Households with No Vehicle Available, by Rurality, 2008-2012**



Border counties had a *significantly higher* proportion of households without a vehicle than other counties in California, Arizona, New Mexico and Texas. This was true for both urban and rural border counties. Border counties did not differ from other counties in the US on this measure.

**Table 13. Percent of Households with No Vehicle Available, by Rurality and County Border Indication, 2012**

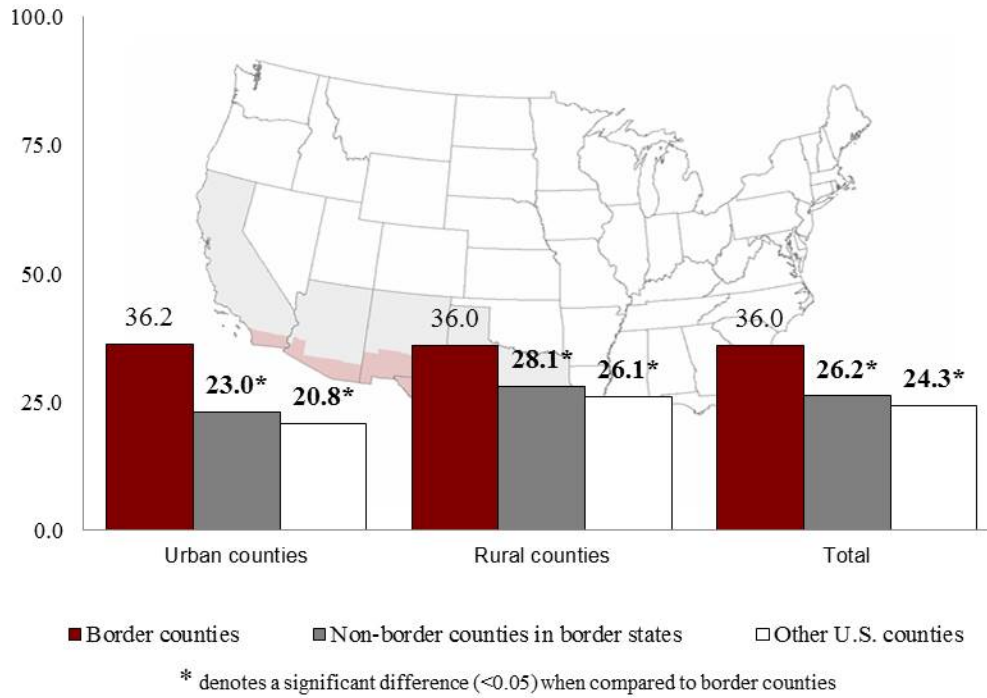
Area of Residence	County Border Indication			Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)	p-value, A to B		
Urban	7.6	<b>5.5</b>	0.0360	6.4	0.4506
Rural	7.9	<b>5.3</b>	<0.0001	6.6	0.0882
Total	7.8	<b>5.4</b>	<0.0001	6.5	0.0596

Bold numbers indicate significant differences at p<0.05 when compared to border counties

Data Source: 2008-2012 American Community Survey, U.S. Census Bureau

**Social & Economic Factors - Percentage of Children in Poverty**

**Percent of Children Living in Poverty, by Rurality, 2011**



Counties that border Mexico had a *significantly higher proportion* ( $p < 0.001$ ) of children living in poverty when compared to all other counties. This trend held true for both urban and rural counties.

**Table 14. Percent of Children Living in Poverty, by Rurality and County Border Indication, 2011**

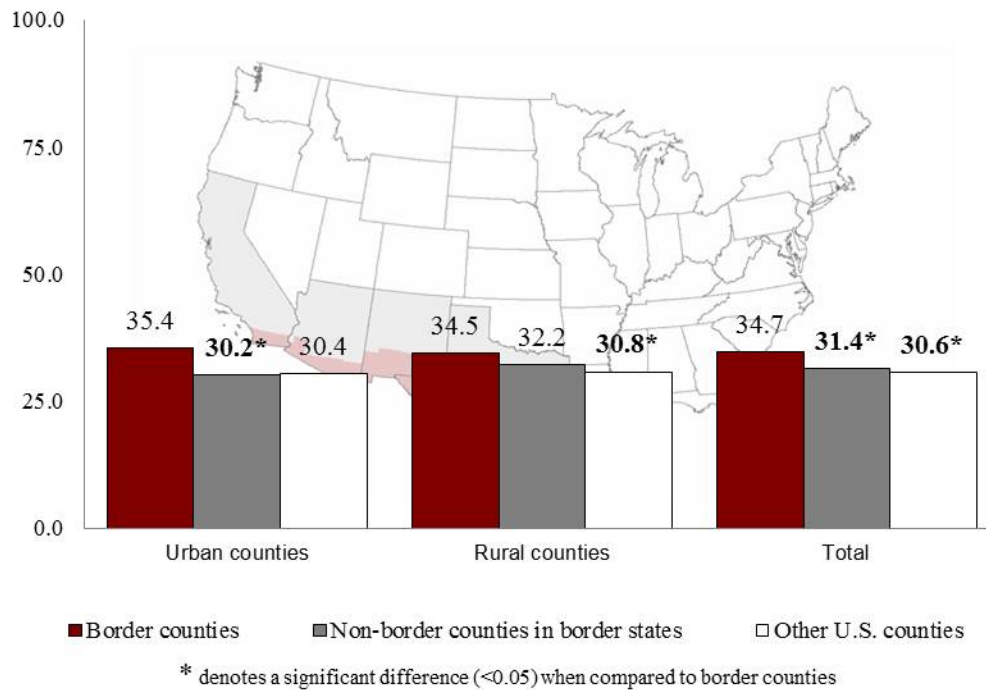
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	36.2%	<b>23.0%</b>	<i>&lt;0.0001</i>	<b>20.8%</b>	<i>&lt;0.0001</i>
Rural	36.0%	<b>28.1%</b>	<i>&lt;0.0001</i>	<b>26.1%</b>	<i>&lt;0.0001</i>
Total	36.0%	<b>26.2%</b>	<i>&lt;0.0001</i>	<b>24.3%</b>	<i>&lt;0.0001</i>

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011 Small Area Income and Poverty Estimates

## Social & Economic Factors - Percentage of Children in Single-Parent Households

Percent of Children in Single-Parent Households, by Rurality, 2007-2011



The proportion of children in rural border counties living in single-parent homes did not differ from that of other rural counties in the region; however, rural border counties contained a *significantly higher proportion* ( $p < 0.05$ ) of children living in single-parent households than other U.S. rural counties. Urban counties had a significantly higher proportion of children in single-parent homes than their in-state non-border county peers, but did not differ from other U.S. counties. Overall, a *significantly higher proportion* of children ( $p < 0.05$ ) in rural border counties lived in single-parent households than other U.S. counties outside border states.

**Table 15. Percent of Children Living in Single-Parent Households, by Rurality and County Border Indication, 2007-2011**

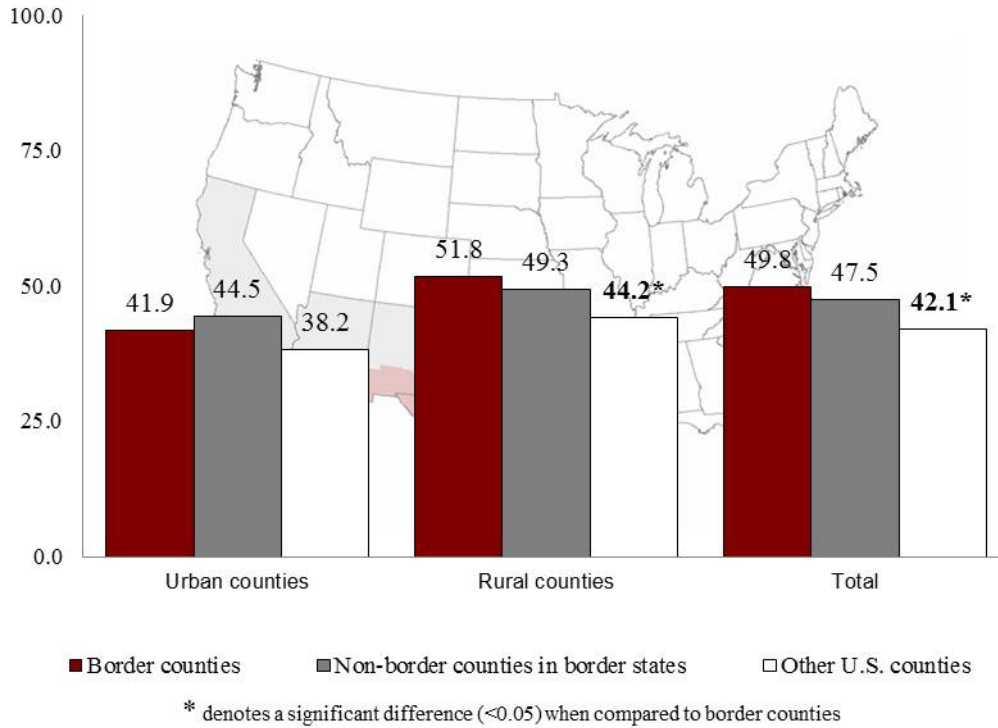
Area of Residence	County Border Indication			<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	35.4%	<b>30.2%</b>		0.0202	30.4%	0.0907
Rural	34.5%	32.2%		0.1608	<b>30.8%</b>	0.0435
Total	34.7%	<b>31.4%</b>		0.0146	<b>30.6%</b>	0.0089

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2007-2011 American Community Survey, 5-year estimates

**Social & Economic Factors - Percentage of Children Eligible for Free/Reduced Lunch**

**Percentage of Children Eligible for Free/Reduced Lunch, by Rurality, 2011**



Rural border counties did not differ from other rural counties within the border states in the proportion of children eligible for free and reduced lunch. However, rural border counties had a *significantly higher proportion* ( $p < 0.05$ ) of children eligible for free and reduced lunch programs than other rural U.S. counties; rural county differences account for the overall differences. No differences were observed for urban counties.

**Table 16. Percent of Children Eligible for Free/Reduced Lunch, by Rurality and County Border Indication, 2011**

Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other Counties (C)	<i>p-value, A to C</i>
Urban	41.9%	44.5%	0.5440	38.2%	0.4631
Rural	51.8%	49.3%	0.3890	<b>44.2%</b>	0.0079
Total	49.8%	47.5%	0.3452	<b>42.1%</b>	0.0023

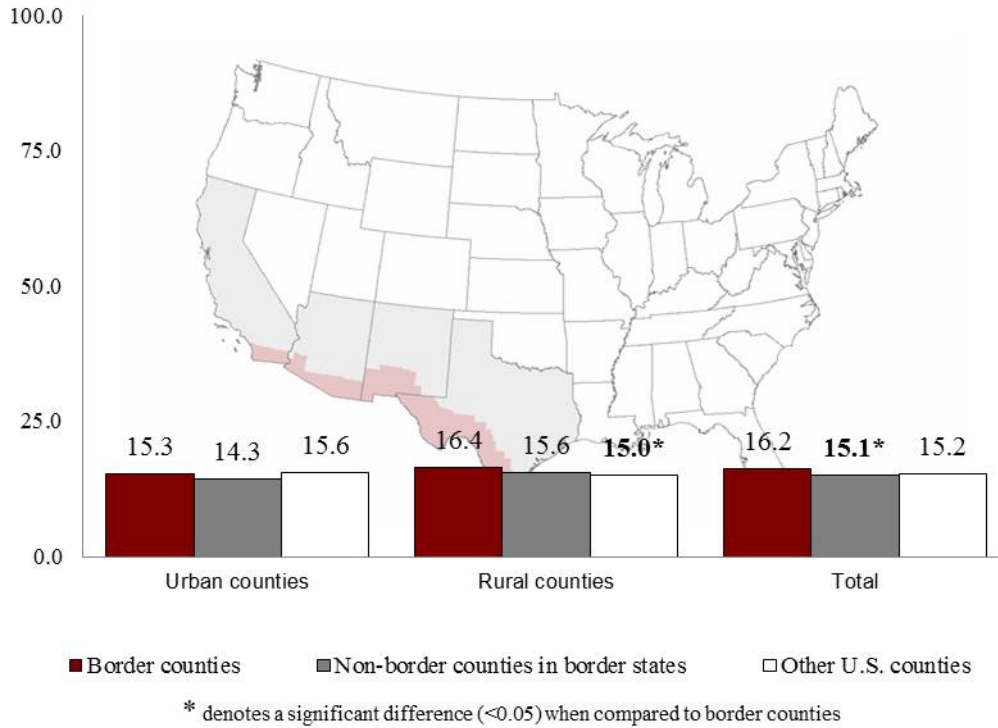
Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011 National Center for Education Statistics



## Social & Economic Factors – SNAP Participants

**Percentage of Population Participating in SNAP Program, by Rurality, 2011**



Rural border counties did not differ from other rural counties within the border states in the percent of the population participating in the Supplemental Nutrition Assistance Program (SNAP). However, rural border counties had a *significantly higher proportion* ( $p < 0.05$ ) of the population participating in SNAP when compared to other rural U.S. counties. Overall, border counties had a *significantly higher proportion* of their population participating in SNAP when compared to other counties in border states.

**Table 17. Percent of Population Participating in SNAP, by Rurality and County Border Indication, 2012**

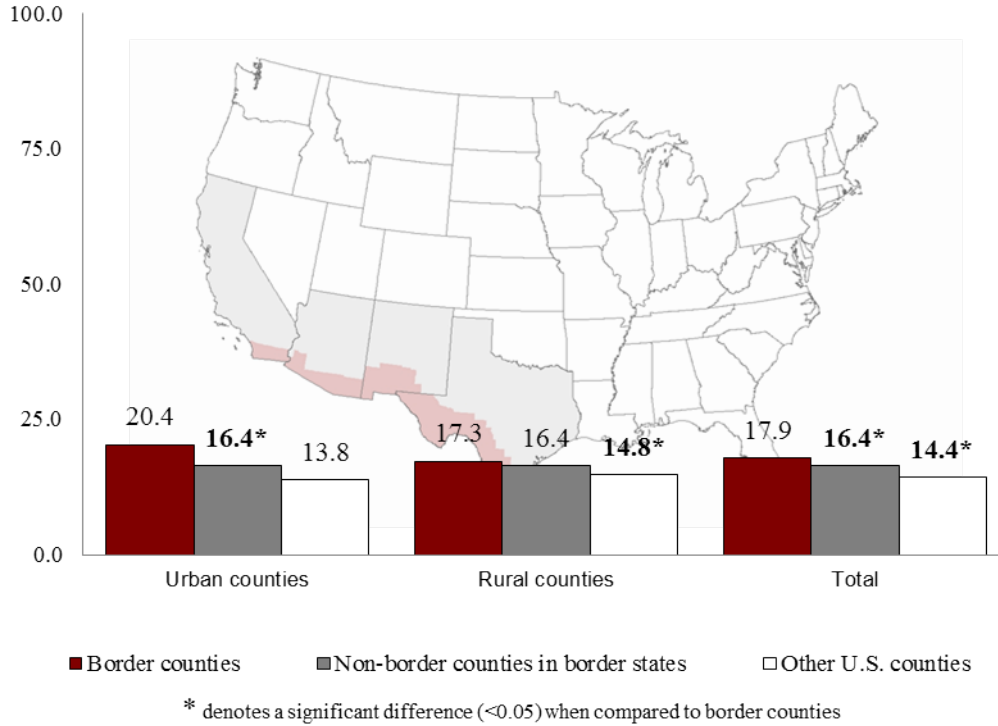
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	15.3%	14.3%	0.3034	15.6%	0.8260
Rural	16.4%	15.6%	0.0783	<b>15.0%</b>	0.0359
Total	16.2%	<b>15.1%</b>	0.0142	15.2%	0.0911

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2012USDA Food Atlas

**Social & Economic Factors – Food Insecurity Rate**

**Rate of Food Insecurity, by Rurality, 2011**



Urban border counties had *significantly higher* rates of food insecurity than non-border counties in Texas, New Mexico, Arizona and California. Rural border counties had *significantly higher* rates of food insecurity than other U.S. counties. Overall, border counties had a *significantly higher* rate of food insecurity when compared to other counties in border states and other counties throughout the nation.

**Table 18. Food Insecurity Rate, by Rurality and County Border Indication, 2011**

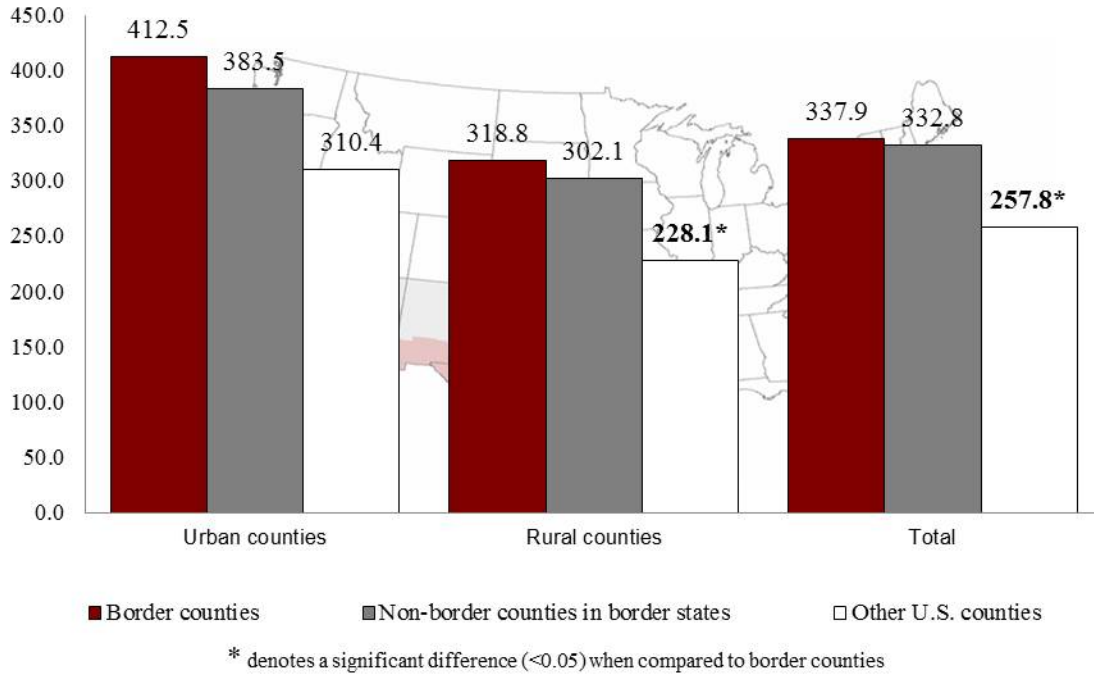
Area of Residence	County Border Indication			p-value, A to B	Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	20.4	<b>16.4</b>		<0.0001	13.8	0.0719
Rural	17.3	16.4		0.0719	<b>14.8</b>	0.0014
Total	17.9	<b>16.4</b>		0.0006	<b>14.4</b>	<0.0001

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011 Map the Meal Gap

## Social & Economic Factors - Annual Violent Crime Rate

**Annual Violent Crime Rate per 100,000 population, by Rurality, 2008-2010**



Overall and within rural counties, border counties had *significantly higher* ( $p < 0.05$ ) annual violent crime rates than counties outside the U.S.-Mexico border region; urban counties did not differ. No differences were observed between rural and urban counties within border states.

**Table 19. Annual Violent Crime Rate per 100,000 population, by Rurality and County Border Indication, 2008-2010**

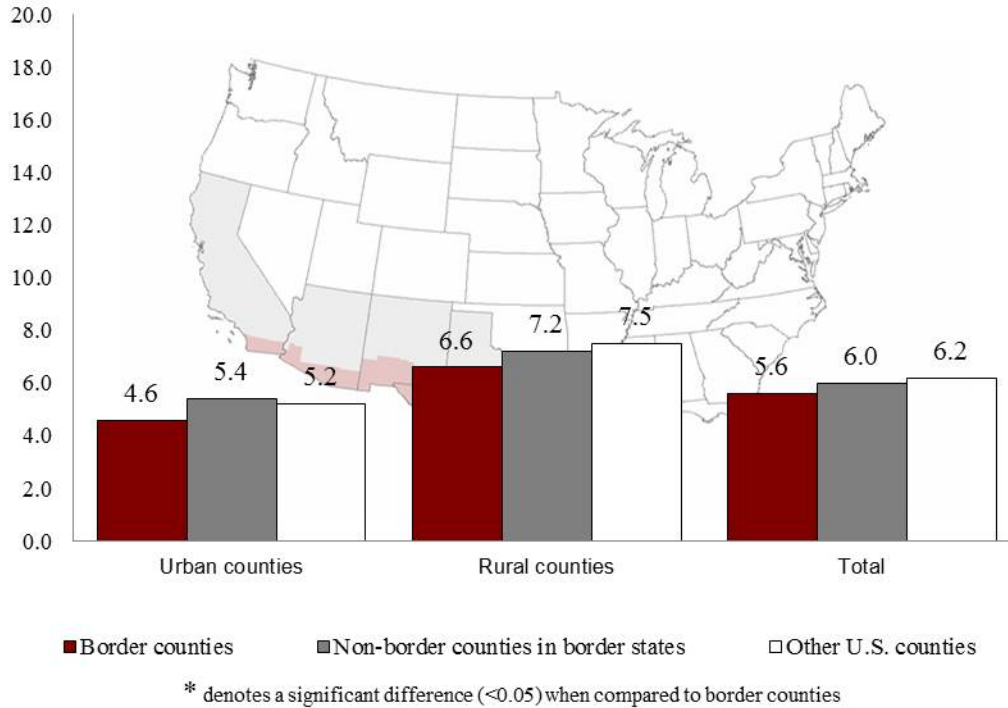
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	412.5	383.5	0.6524	310.4	0.1990
Rural	318.8	302.1	0.6867	<b>228.1</b>	0.0097
Total	337.9	332.8	0.8819	<b>257.8</b>	0.0169

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2008-2010 Uniform Crime Reporting, Federal Bureau of Investigation (state data sources for Illinois)

## Social & Economic Factors - Homicide Rate

### Homicide Rate per 100,000, by Rurality, 2004-2010



*No differences* in homicide rates were observed between border counties and counties elsewhere in the U.S. including non-border counties in Arizona, New Mexico, California and Texas.

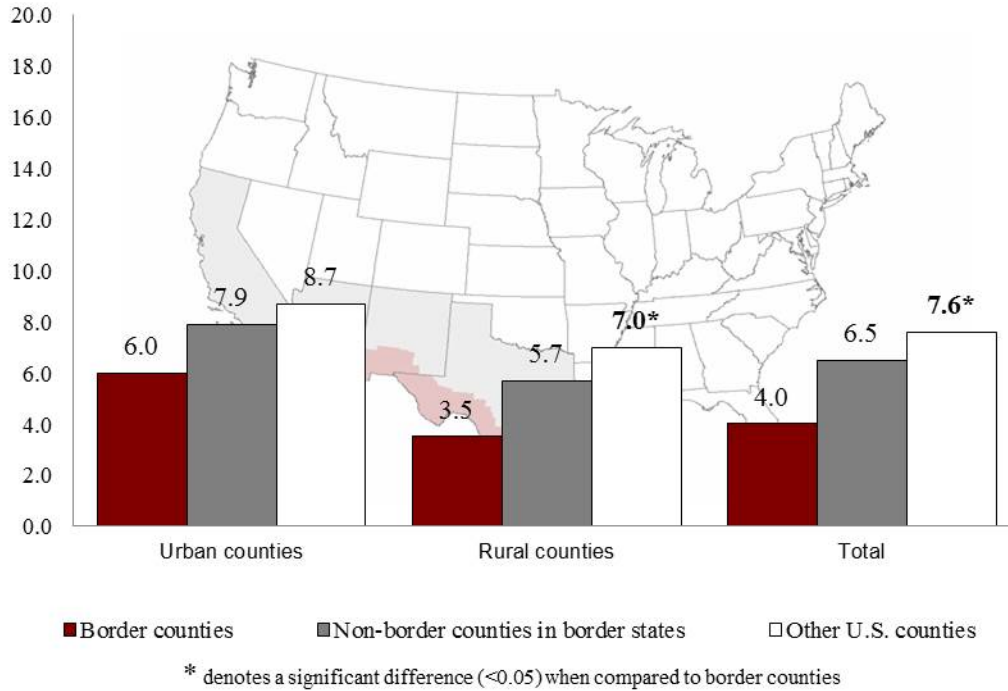
**Table 20. Homicide Rate per 100,000, by Rurality and County Border Indication, 2004-2010**

Area of Residence	County Border Indication			p-value, A to B	Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	4.6	5.4		0.3302	5.2	0.6226
Rural	6.6	7.2		0.6438	7.5	0.5774
Total	5.6	6.0		0.5573	6.2	0.5984

Data Source: 2004-2010 National Center for Health Statistics

## Physical Environment - Access Rate to Recreational Facilities

Access Rate per 100,000 to Recreational Facilities, by Rurality, 2010



Information on recreational facilities was drawn from County Business Patterns and refers to establishments that offer exercise, fitness or other recreational sports activities. The rate of recreational facilities per 100,000 population was *significantly lower* ( $p < 0.05$ ) in rural border counties than other counties outside the four U.S.-Mexico border region states. No differences were observed within the border region for urban counties compared to urban counties in other states.

**Table 21. Access Rate per 100,000 Population to Recreational Facilities, by Rurality and County Border Indication, 2010**

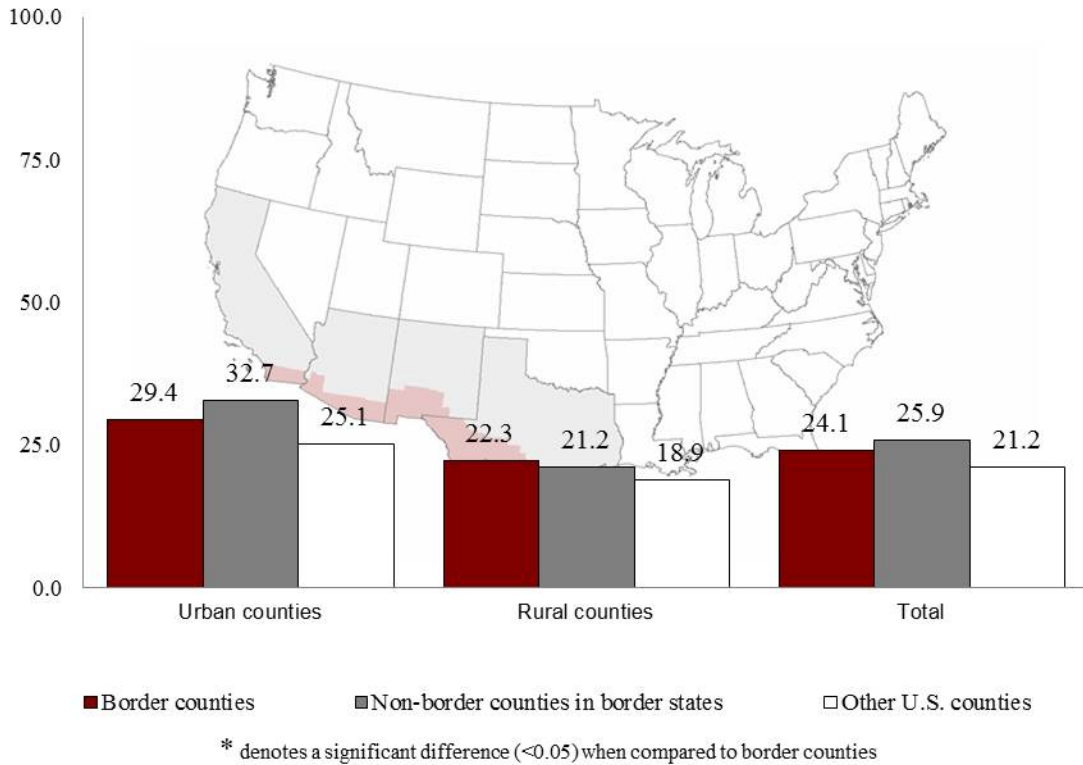
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	6.0	7.9	0.3898	8.7	0.1051
Rural	3.5	5.7	0.1746	<b>7.0</b>	0.0139
Total	4.0	6.5	0.0541	<b>7.6</b>	0.0014

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2010 County Business Patterns

**Physical Environment - Percentage of Individuals with Access to Parks**

**Percent of Individuals with Access to Parks, by Rurality, 2010**



No differences were observed between border counties and other counties in the same states or across the country for the proportion of residents who had access to parks, as tracked by the Environmental Public Health Tracking Network of the Centers for Disease Control and Prevention.

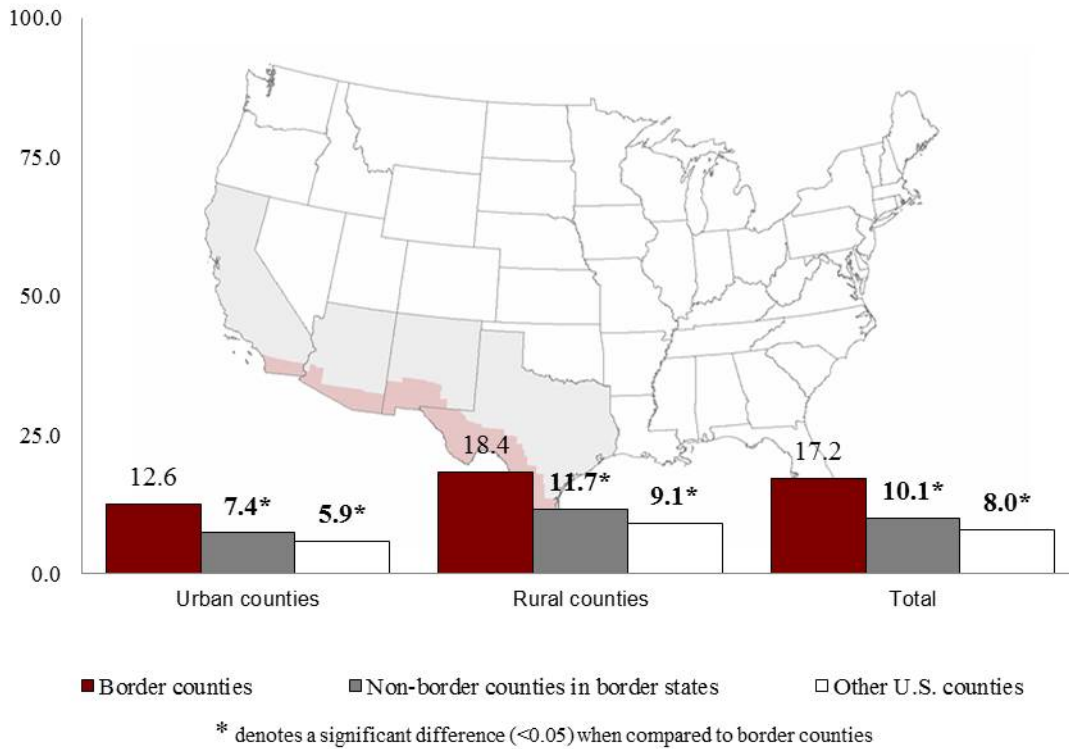
**Table 22. Percent of Residents with Access to Parks, by Rurality and County Border Indication, 2010**

Area of Residence	County Border Indication			Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)	p-value, A to B		
Urban	29.4%	32.7%	0.6940	25.1%	0.5373
Rural	22.3%	21.2%	0.7348	18.9%	0.2657
Total	24.1%	25.9%	0.6223	21.2%	0.3345

Data Source: 2010 Environmental Public Health Tracking Network

**Physical Environment - Percentage of Individuals with Limited Access to Healthy Foods**

**Percent of Individuals with Limited Access to Healthy Foods, by Rurality, 2012**



Limited access to healthy foods is defined as the proportion of county residents who both lived in poverty and were more than 1 mile (urban counties) or 10 miles (rural counties) from a grocery store. A *significantly higher proportion* ( $p < 0.05$ ) of border county residents had limited access to healthy foods than in other U.S. counties including non-border counties in California, Arizona, New Mexico and Texas. The disparity was observed for both rural and urban border counties.

**Table 23. Percent of Population who lives in Poverty and more than 1 or 10 miles from a Grocery Store, by Rurality and County Border Indications, 2012**

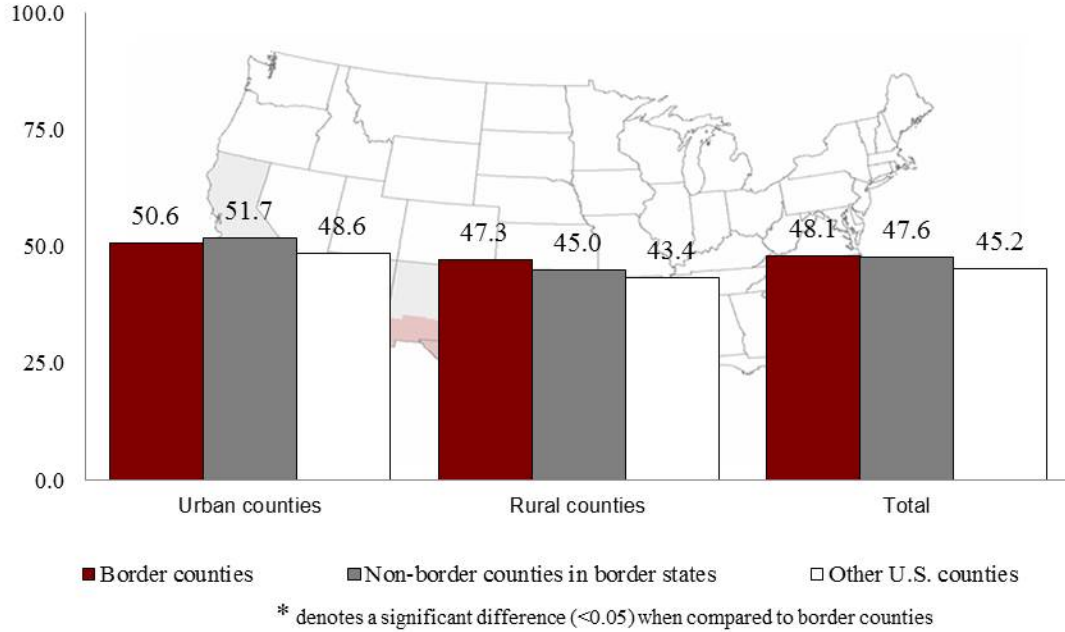
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	12.6%	<b>7.4%</b>	0.0042	<b>5.9%</b>	<0.0001
Rural	18.4%	<b>11.7%</b>	0.0008	<b>9.1%</b>	<0.0001
Total	17.2%	<b>10.1%</b>	<0.0001	<b>8.0%</b>	<0.0001

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2012 USDA Food Environment Atlas

**Physical Environment - Percentage of Restaurants that are Fast Food**

**Percent of Restaurants that are Fast Food, by Rurality, 2010**



No differences between border counties and other U.S. counties including non-border counties in Arizona, California, New Mexico and Texas were observed for the proportion of fast food versus other restaurants in the county.

**Table 24. Percent of all Restaurants that are Fast Food, by Rurality and County Border Indication, 2010**

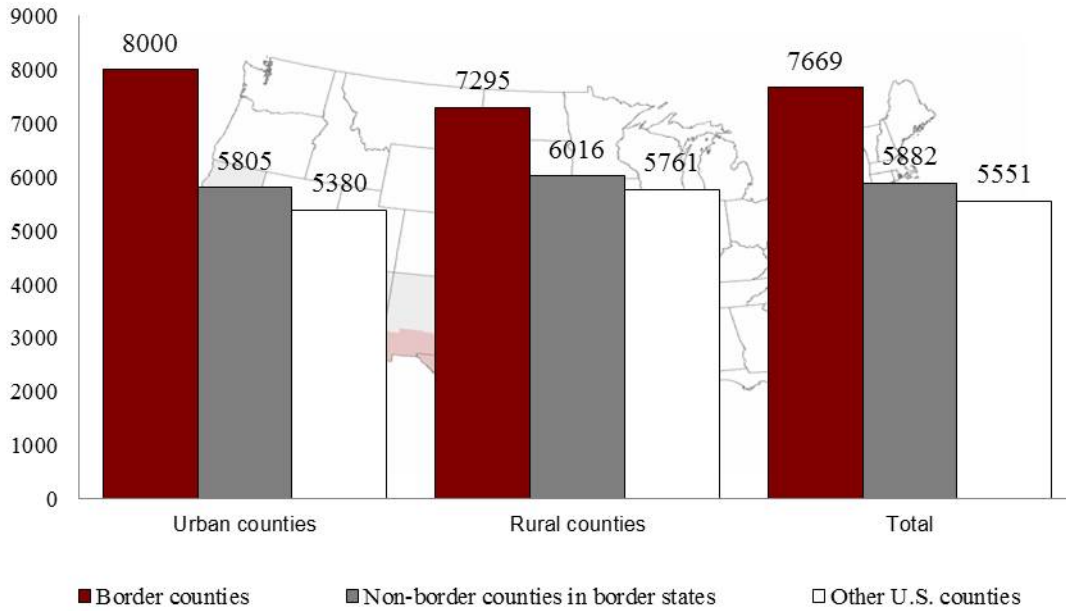
Area of Residence	County Border Indication			Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)	p-value, A to B		
Urban	50.6%	51.7%	0.7397	48.6%	0.5178
Rural	47.3%	45.0%	0.2969	43.4%	0.1573
Total	48.1%	47.6%	0.8100	45.2%	0.1973

Data Source: 2010 County Business Patterns



**Access to Health Care – Population per One Mental Health Provider**

**Population per One Mental Health Provider, by Rurality, 2011-2012**



\* denotes a significant difference (<0.05) when compared to border counties

Measured as county averages, *no differences* were observed between border counties and all other U.S. counties including non-border counties in the four border states for the number of persons per a single mental health provider. This measure of availability suggests access to mental health providers does not differ between the border and other areas of the U.S.

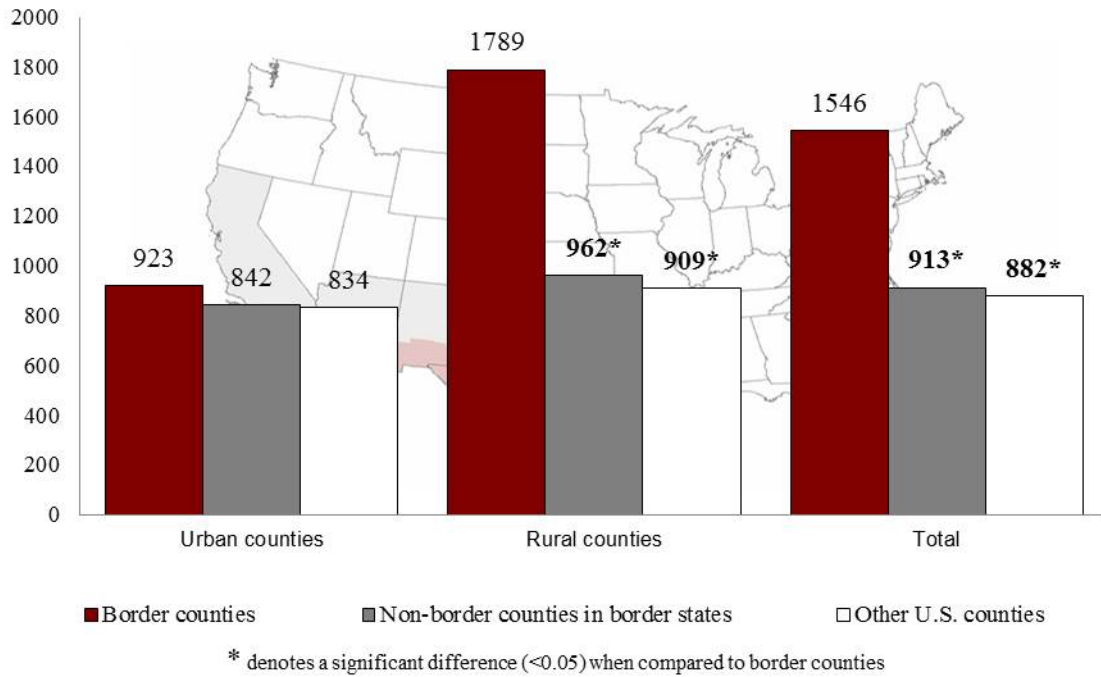
**Table 25. Population per One Mental Health Provider, by Rurality and County Border Health Indication, 2011-2012**

Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	8000.4	5804.5	0.3601	5379.6	0.1786
Rural	7295.1	6015.9	0.4267	5760.9	0.3155
Total	7668.5	5881.9	0.2437	5551.2	0.0940

Data Source: 2011-2012 HRSA Area Resource File

**Access to Health Care - Population per One Dentist**

**Population per One Dentist, by Rurality, 2011-2012**



Measured as county averages, the number of people served by a single dentist was *significantly greater* ( $p < 0.05$ ) in border counties than in all other U.S. counties, including non-border counties in the four border states. The disparity is pronounced for rural border counties, where the number of residents for each dentist is greater than other U.S. counties as well as in non-border counties in Arizona, California, New Mexico and Texas. No differences in population/dentist ratios were observed in urban counties.

**Table 26. Population per One Dentist, by Rurality and County Border Health Indication, 2011-2012**

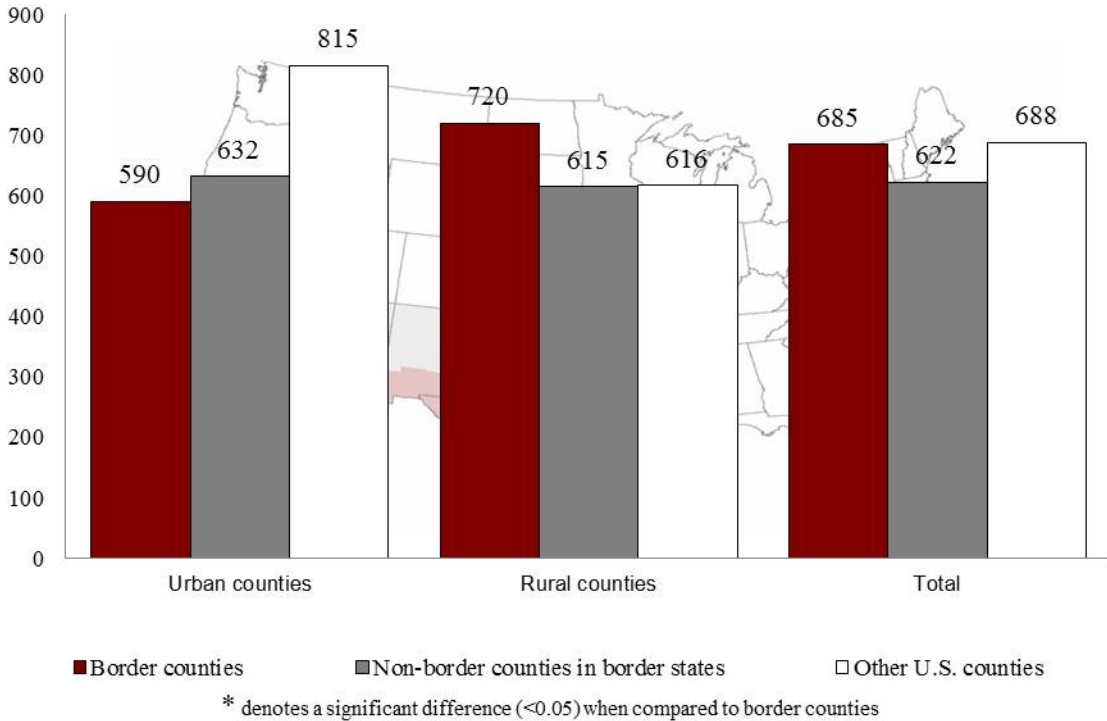
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	923.0	842.4	0.7546	834.1	0.7211
Rural	1789.0	<b>961.8</b>	<0.0001	<b>909.2</b>	<0.0001
Total	1545.5	<b>912.9</b>	<0.0001	<b>882.0</b>	<0.0001

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011-2012 HRSA Area Resource File

**Access to Health Care - Population per One Primary Care Provider**

**Population per One Primary Care Provider, by Rurality, 2011-2012**



No differences were observed between border counties and other places in the U.S. for availability of primary care providers relative to the number of people in a county. This measure of access takes into consideration fewer variables than does primary care health professional shortage area status.

**Table 27. Population per One Primary Care Provider, by Rurality and County Border Indication, 2011-2012**

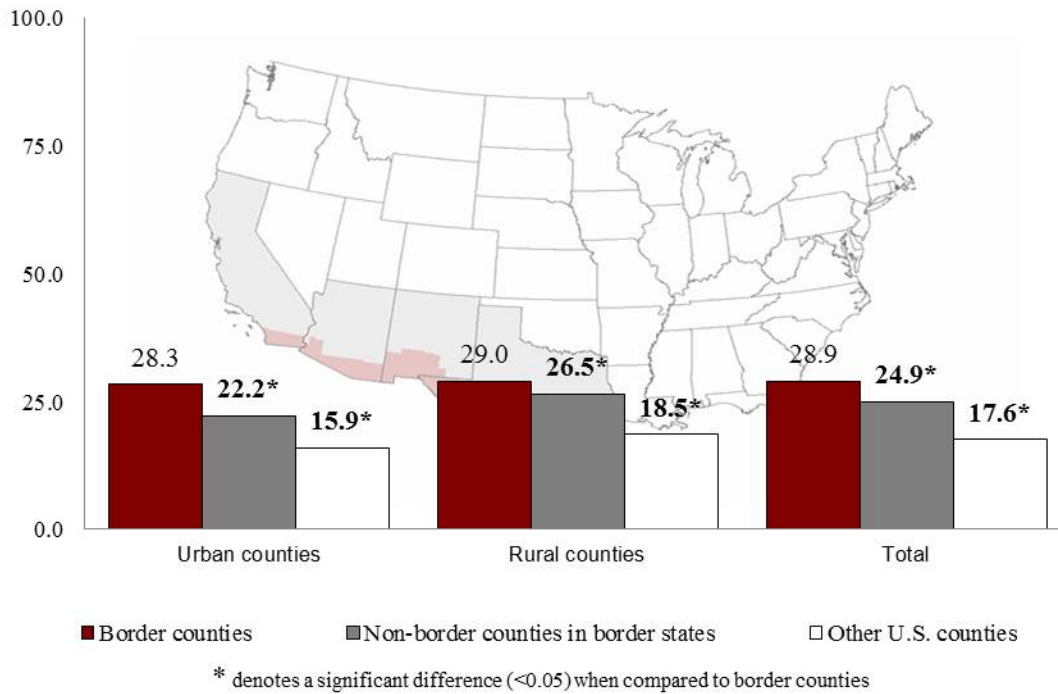
Area of Residence	County Border Indication			Other U.S. Counties (C)	<i>p-value, A to C</i>
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>		
Urban	589.7	632.2	0.8229	815.3	0.8969
Rural	719.8	614.6	0.2033	616.0	0.3391
Total	685.4	621.6	0.4379	688.0	0.9961

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2011-2012 HRSA Area Resource File

**Access to Health Care - Percentage of Population Under Age 65 Without Health Insurance**

**Percent Uninsured, by Rurality, 2010**



Lack of health insurance affected a *significantly higher proportion* of persons under age 65 in border counties than in non-border counties in border states or in counties in the rest of the U.S. Please note that the data shown here pertain to 2010, before implementation of the Affordable Care Act.

**Table 28. Percentage of Population < age 65 without Health Insurance, by Rurality and County Border Indication, 2010**

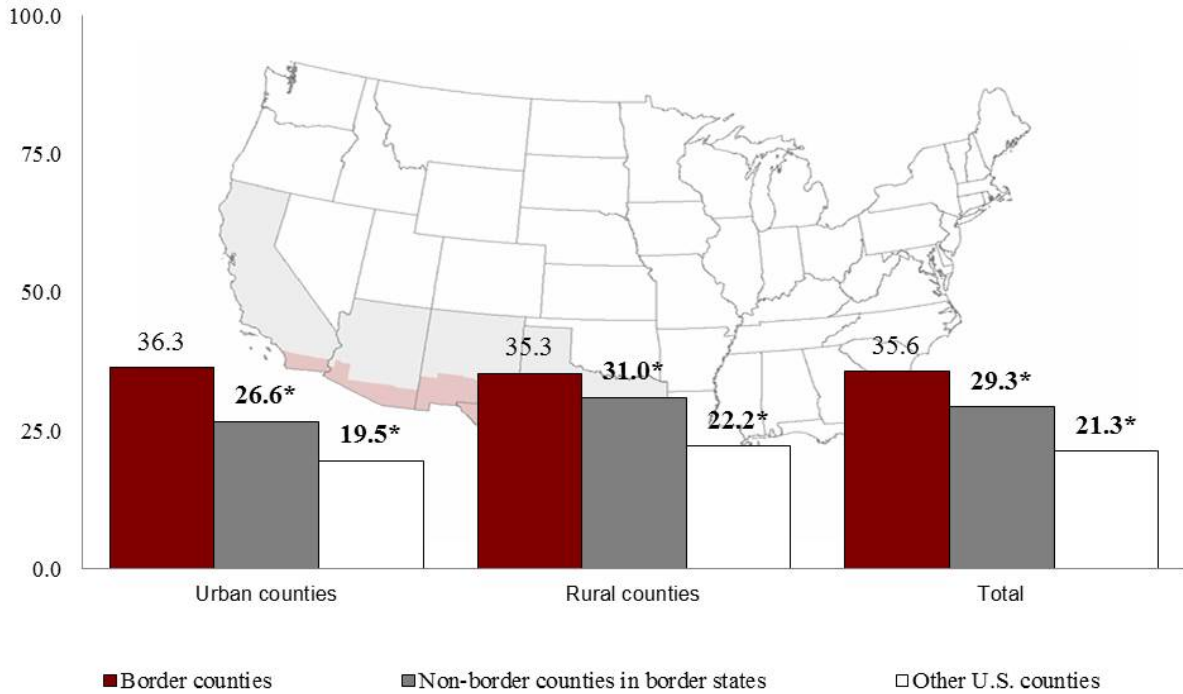
Area of Residence	County Border Indication			Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)	p-value, A to B		
Urban	28.3%	<b>22.2%</b>	0.0002	<b>15.9%</b>	<0.0001
Rural	29.0%	<b>26.5%</b>	0.0087	<b>18.5%</b>	<0.0001
Total	28.9%	<b>24.9%</b>	<0.0001	<b>17.6%</b>	<0.0001

Bold numbers indicate significant differences at p<0.05 when compared to border counties

Data Source: 2010 Small Area Health Insurance Estimates, United States Census Bureau. Data limited to civilian, non-institutionalized population.

**Access to Health Care - Percentage Adults Who Are Uninsured**

**Percent of Uninsured Adults, by Rurality, 2010**



\* denotes a significant difference (<0.05) when compared to border counties

Because most state Medicaid programs are generous in their inclusion of children, lack of health insurance is more common among adults than among all persons under age 65, the data shown here. Rural and urban border counties had a *significantly higher proportion* ( $p < 0.05$ ) of uninsured adults than other U.S. counties including the non-border counties in the four border states. The data here pertain to 2010 and thus precede the Affordable Care Act.

**Table 29. Percent of Uninsured Adults, by Rurality and County Border Indication, 2010**

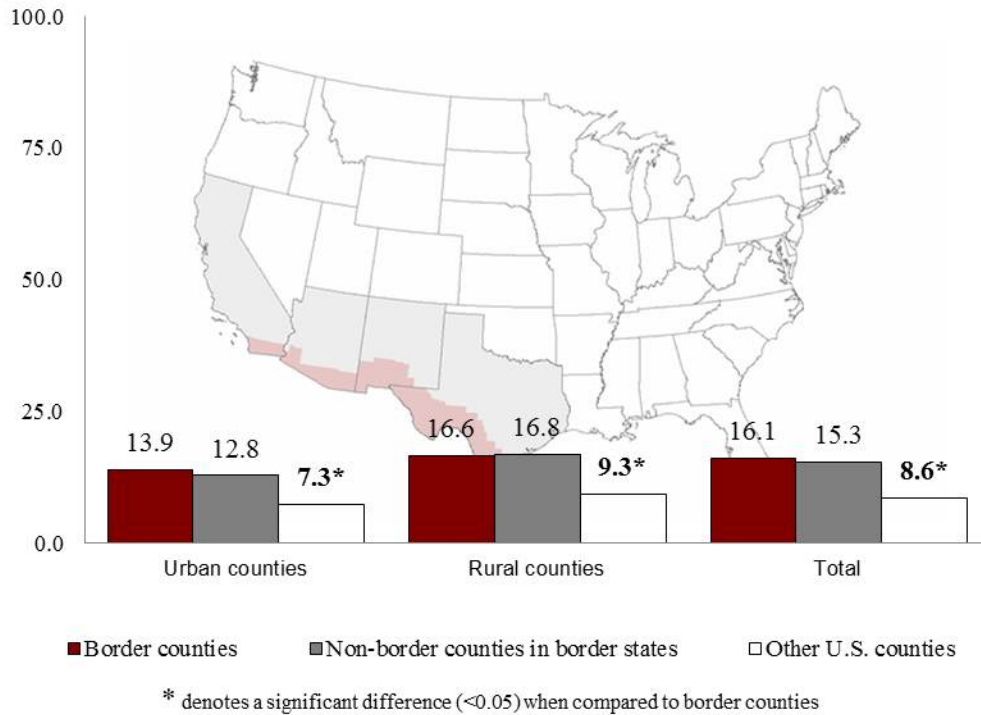
Area of Residence	County Border Indication			Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)	p-value, A to B		
Urban	36.3%	<b>26.6%</b>	<0.0001	<b>19.5%</b>	<0.0001
Rural	35.3%	<b>31.0%</b>	0.0001	<b>22.2%</b>	<0.0001
Total	35.6%	<b>29.3%</b>	<0.0001	<b>21.3%</b>	<0.0001

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2010 Small Area Health Insurance Estimates, United States Census Bureau. Data limited to civilian, non-institutionalized population.

Access to Health Care - Percentage of Children Who Are Uninsured

Percent of Uninsured Children, by Rurality, 2010



Both rural and urban border counties had a *significantly higher proportion* ( $p < 0.05$ ) of uninsured children than U.S. counties outside the four border states. No differences in the proportion of children lacking health insurance were observed between border counties and non-border counties in the four border states.

**Table 30. Percent of Uninsured Children, by Rurality and County Border Indication, 2010**

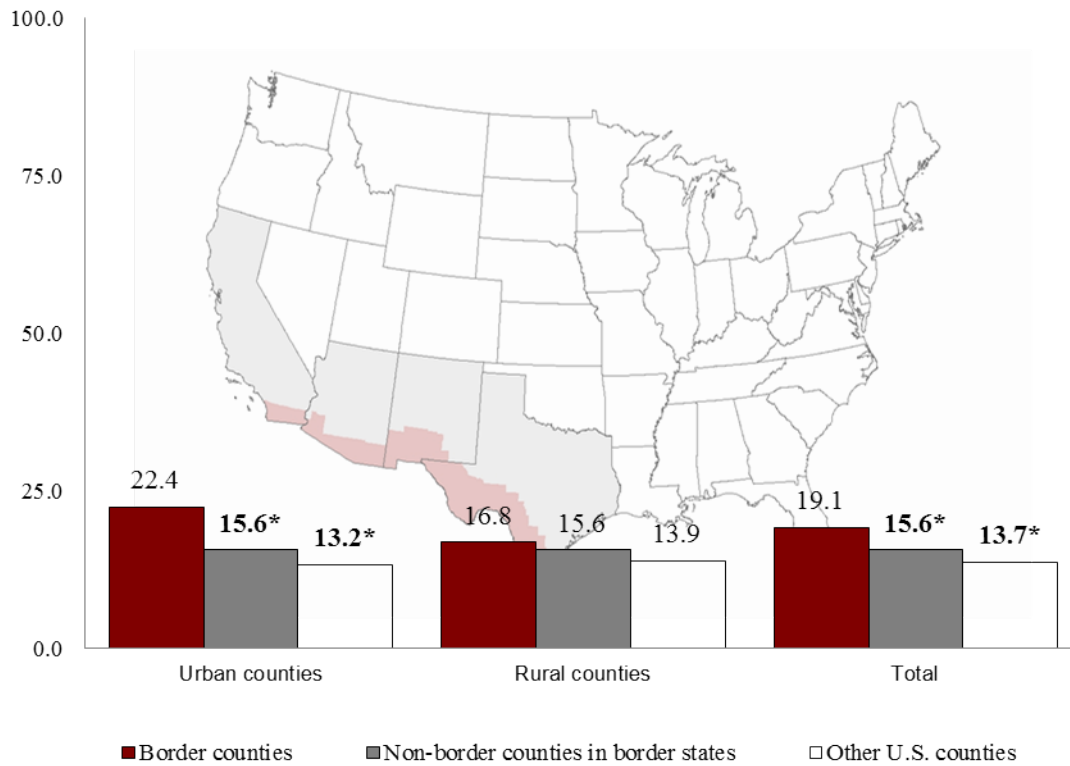
Area of Residence	County Border Indication			Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)	p-value, A to B		
Urban	13.9%	12.8%	0.3538	<b>7.3%</b>	<0.0001
Rural	16.6%	16.8%	0.8499	<b>9.3%</b>	<0.0001
Total	16.1%	15.3%	0.3114	<b>8.6%</b>	<0.0001

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2010 Small Area Health Insurance Estimates

**Access to Health Care - Percentage of Adults Who Could Not Access Doctor Due to Cost**

**Percent of Adults Who Could Not Access Doctor Due to Cost, by Rurality, 2005-2011**



\* denotes a significant difference (<math>p < 0.05</math>) when compared to border counties

Border counties had a *significantly higher proportion* ( $p < 0.05$ ) of residents without access to a doctor due to cost than other U.S. counties including non-border counties in border states. This disparity was evident for urban border counties but not for rural counties, where no differences were observed.

**Table 31. Percent of Individuals Who Could Not Access Doctor Due to Cost, by Rurality and County Border Indication, 2005-2011**

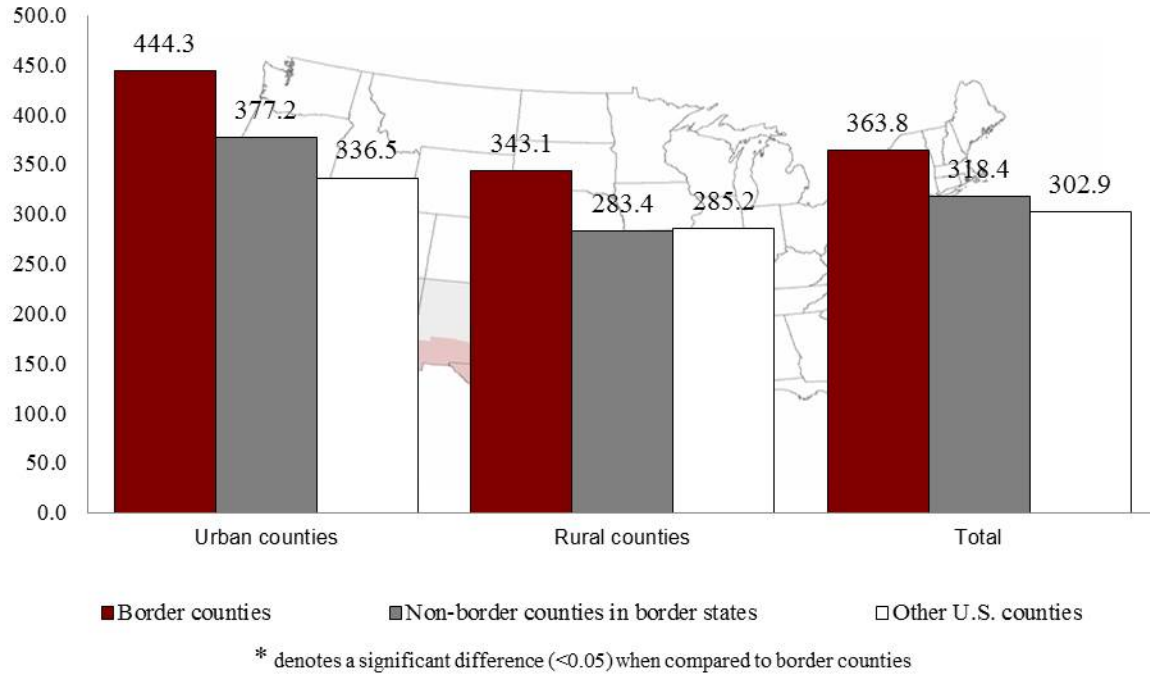
Area of Residence	County Border Indication			Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)	p-value, A to B		
Urban	22.4%	<b>15.6%</b>	<math>< 0.0001</math>	<b>13.2%</b>	<math>< 0.0001</math>
Rural	16.8%	15.6%	0.5004	13.9%	0.0705
Total	19.1%	<b>15.6%</b>	0.0030	<b>13.7%</b>	<math>< 0.0001</math>

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2005-2011 Behavioral Risk Factor Surveillance System

**Health Outcomes - Chlamydia Rate**

**Chlamydia Rate per 100,000 Population, by Rurality, 2010**



No differences for county-level chlamydia rates per 100,000 persons were observed between border and non-border counties regardless of geographic location of county.

**Table 32. Rate of Chlamydia per 100,000 population, by Rurality and County Border Indication, 2010**

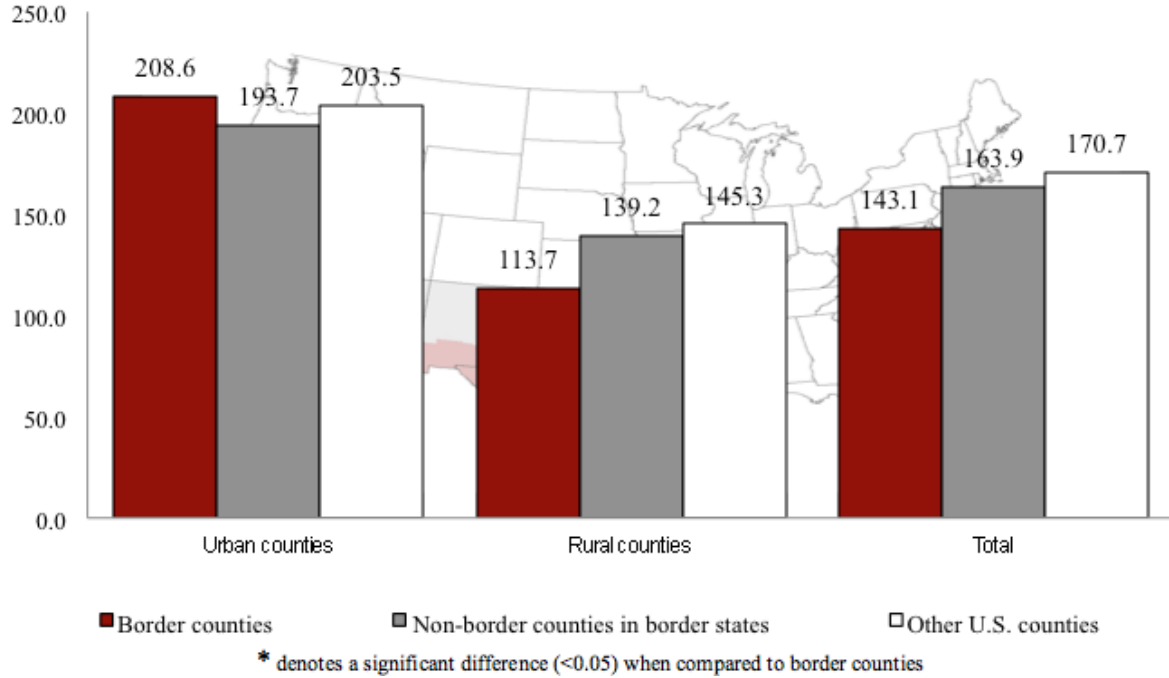
Area of Residence	County Border Indication			<i>p</i> -value, A to B	Other U.S. Counties (C)	<i>p</i> -value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	444.3	377.2		0.2788	336.5	0.1795
Rural	343.1	283.4		0.0679	285.2	0.2405
Total	363.8	318.4		0.1242	302.9	0.1438

Data Source: 2010 National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention



## Health Outcomes – HIV Rate

### HIV Rate per 100,000 Population, by Rurality, 2010



No differences for HIV rate amongst border and non-border counties were observed regardless of geographic location of the county.

**Table 33. HIV Rate, by Rurality and County Border Indication, 2010**

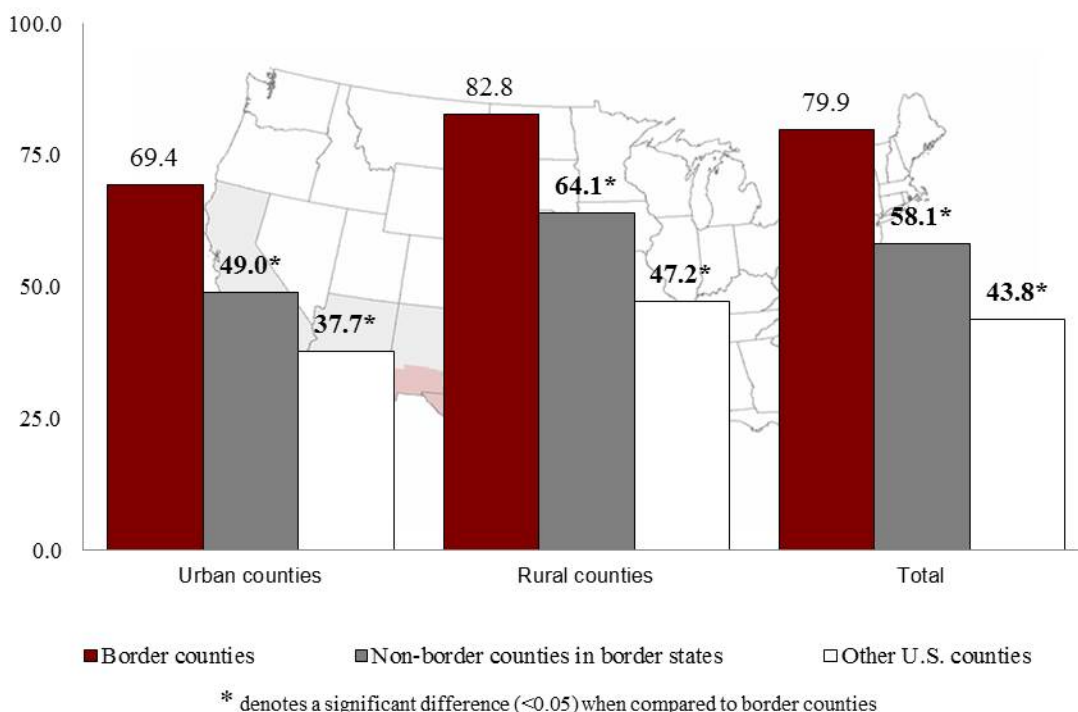
Area of Residence	County Border Indication			Other U.S. Counties (C)	<i>p-value, A to C</i>
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>		
Urban	208.6	193.7	<i>0.8441</i>	203.5	<i>0.7274</i>
Rural	113.7	139.2	<i>0.7274</i>	145.3	<i>0.4198</i>
Total	143.1	163.9	<i>0.6960</i>	170.7	<i>0.4830</i>

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2010 National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

**Health Outcomes - Teenage Birth Rate**

**Teenage Birth Rate per 1,000 Young Women, by Rurality, 2004-2010**



The average county birth rate among young women ages 15 – 19 was *significantly higher* for border counties than counties elsewhere in the U.S. including non-border counties in the four state border region. Border county rates were markedly higher in both urban and rural counties.

**Table 34. Teenage Birth Rate per 1,000 females ages 15-19, by Rurality and County Border Indication, 2004-2010**

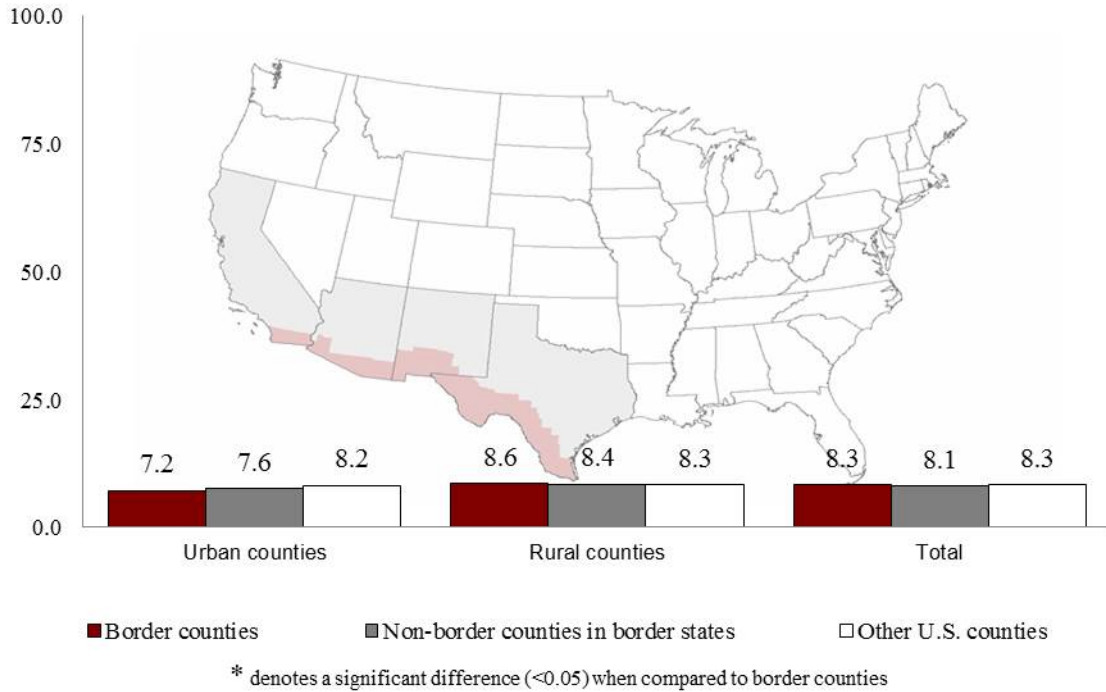
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	69.4	<b>49.0</b>	0.0016	<b>37.7</b>	<0.0001
Rural	82.8	<b>64.1</b>	<0.0001	<b>47.2</b>	<0.0001
Total	79.9	<b>58.1</b>	<0.0001	<b>43.8</b>	<0.0001

Bold numbers indicate significant differences at p<0.05 when compared to border counties

Data Source: 2004-2010 National Center for Health Statistics

**Health Outcomes - Percentage of Low Weight Births**

**Percent of Low Weight Births, by Rurality, 2004-2010**



No differences in the percentage of infants in a county who were born weighing less than 2,500 grams were observed between border counties and other U.S. counties, including the non-border counties in the four border states.

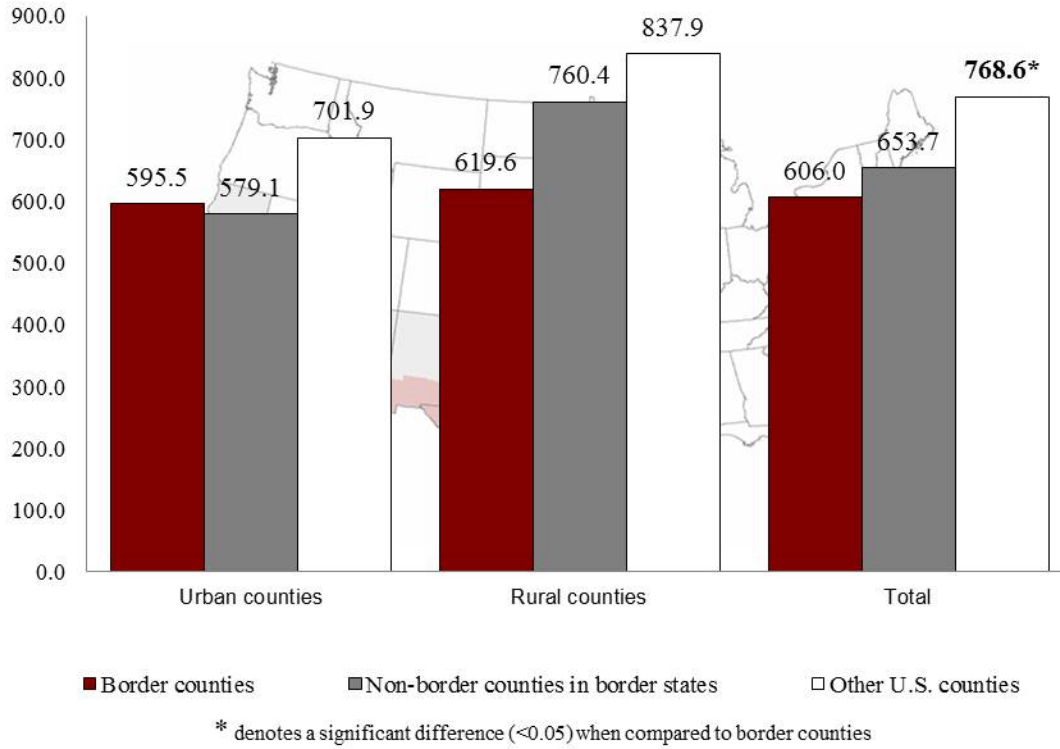
**Table 35. Percent of Births with weight <2,500 grams, by Rurality and County Border Indication, 2004-2010**

Area of Residence	County Border Indication			p-value, A to B	Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	7.2%	7.6%		0.3012	8.2%	0.0750
Rural	8.6%	8.4%		0.4013	8.3%	0.4853
Total	8.3%	8.1%		0.3874	8.3%	0.9907

Data Source: 2004-2010 National Center for Health Statistics

## Health Outcomes - Rate of Infant Mortality

**Infant Mortality per 100,000 Live Births, by Rurality, 2006-2010**



Across all border counties, infant mortality rates (death of a child before reaching one year of age) were *significantly lower* ( $p < 0.05$ ) in border counties than outside of the four border state region. No other differences in infant mortality were observed regardless of border indication or area of residence.

**Table 36. Rate of Infant Mortality per 100,000 live births, by Rurality and County Border Indication, 2006-2010**

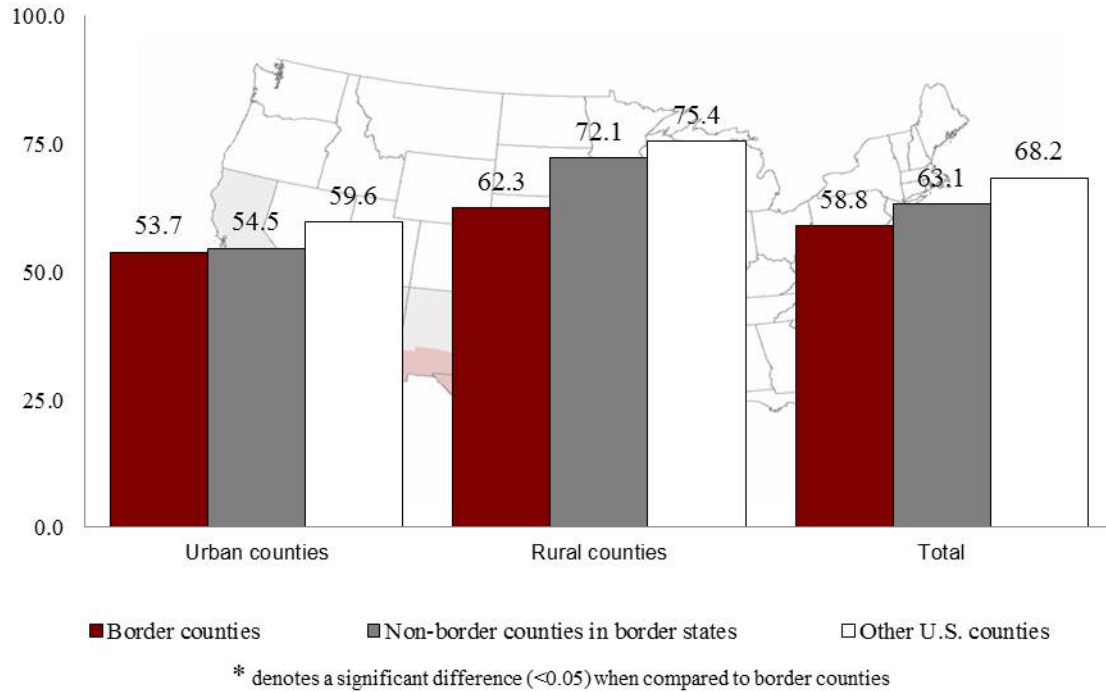
Area of Residence	County Border Indication			Other U.S. Counties (C)	<i>p-value, A to C</i>
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>		
Urban	595.5	579.1	0.7179	701.9	0.1683
Rural	619.6	760.4	0.1562	837.9	0.0797
Total	606.0	653.7	0.3762	<b>768.6</b>	0.0258

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2006-2010 CDC WONDER mortality data

## Health Outcomes - Rate of Child Mortality

**Mortality per 100,000 Children Ages 1 - 14, by Rurality, 2007-2010**



*No differences* in child mortality rates (deaths between the ages of 1 year and 14 years) were observed between border counties and other U.S. counties including non-border counties in border states.

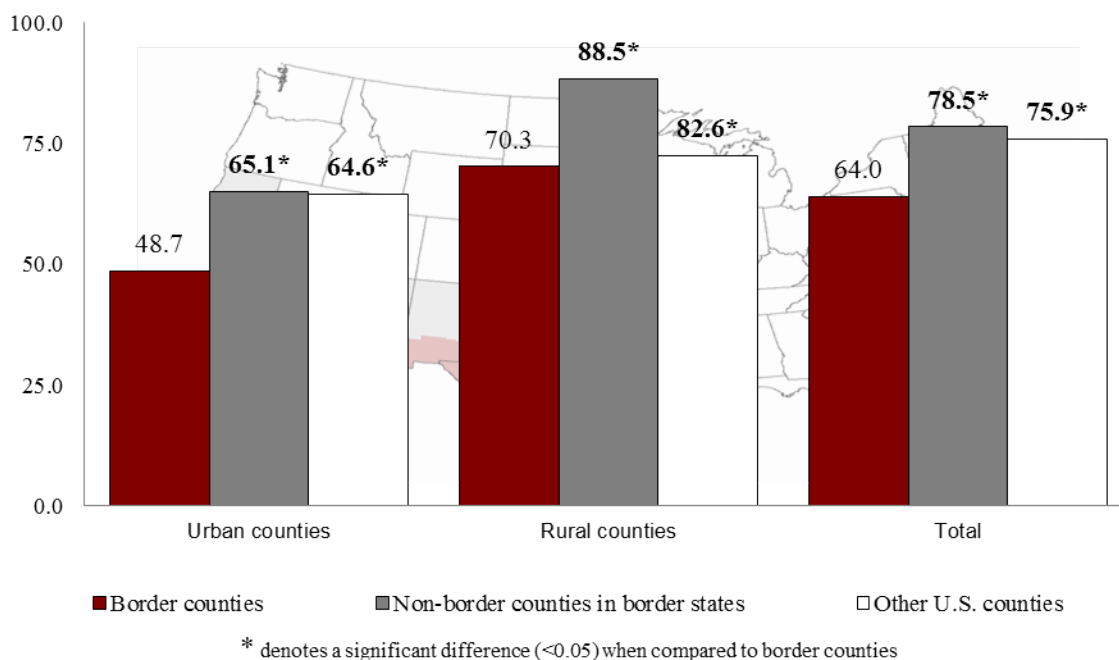
**Table 37. Rate of Child Mortality per 100,000 population, by Rurality and County Border Indication, 2007-2010**

Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	53.7	54.5	0.8688	59.6	0.3716
Rural	62.3	72.1	0.1328	75.4	0.1165
Total	58.8	63.1	0.3399	68.2	0.1026

Data Source: 2007-2010 CDC WONDER mortality data

**Health Outcomes – Injury Death Rate**

**Injury Death Rate per 100,000, by Rurality, 2010**



Injury mortality includes both intentional and unintentional injury and all age groups. Border counties had *significantly lower* rates of injury death per 100,000 than other U.S. counties including counties in Texas, New Mexico, Arizona and California. This trend was observed for both urban and rural counties.

**Table 38. Injury Death Rate per 100,000, by Rurality and County Border Indication, 2006-2010**

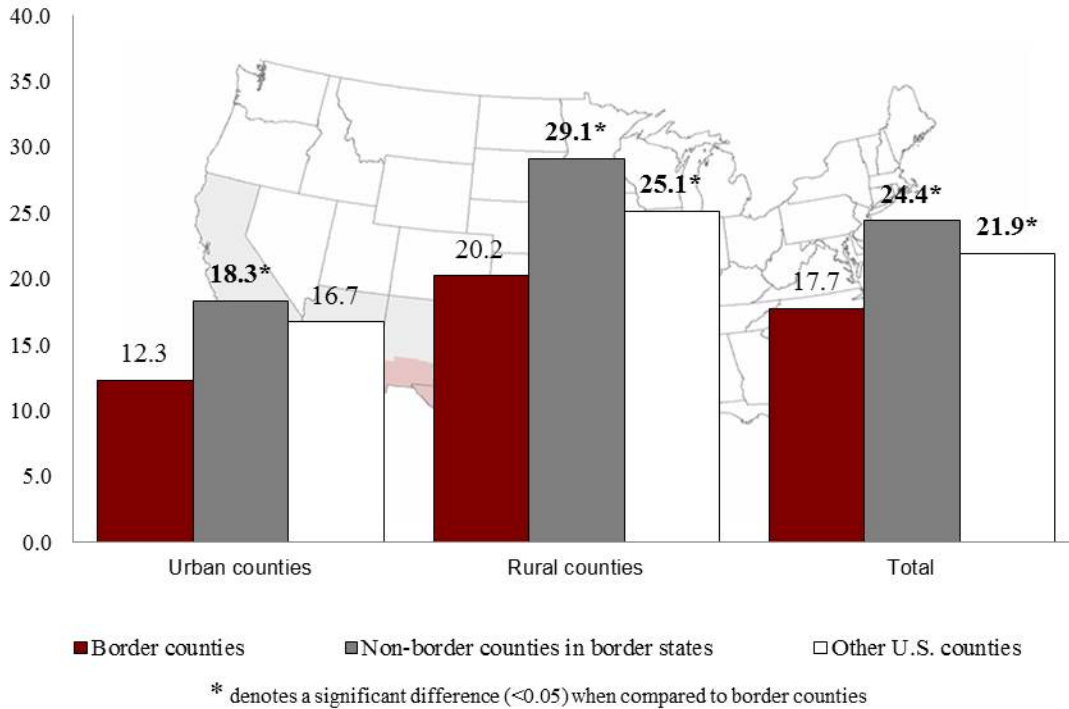
Area of Residence	County Border Indication			Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)	p-value, A to B		
Urban	48.7	<b>65.1</b>	0.0145	<b>64.6</b>	0.0090
Rural	70.3	<b>88.5</b>	0.0006	<b>82.6</b>	0.0246
Total	64.0	<b>78.5</b>	0.0016	<b>75.9</b>	0.0077

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2006-2010 CDC WONDER

**Health Outcomes - Motor Vehicle Mortality Rate**

**Motor Vehicle Mortality Rate per 100,000 Population, by Rurality, 2004-2010**



Overall, the motor vehicle mortality rate averaged *significantly lower* ( $p < 0.05$ ) for border counties than for non-border counties (within and outside the four border states). Rural border counties had significantly lower motor vehicle mortality rates than rural counties in border states and the rest of the nation. Urban border county rates were less than those observed for non-border counties in the four border states; however, no difference was observed between urban border counties and other U.S. urban counties. Rural mortality rates exceeded urban rates across all comparisons.

**Table 39. Motor Vehicle Mortality Rate per 100,000 population, by Rurality and County Border Indication, 2004-2010**

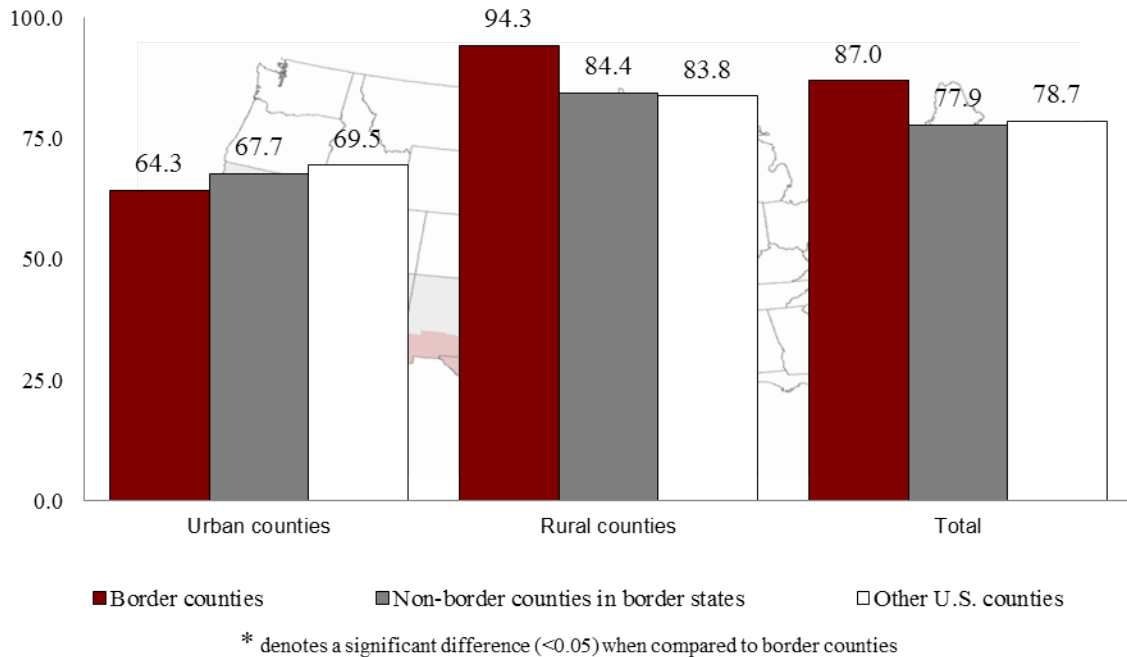
Area of Residence	County Border Indication				
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
Urban	12.3	<b>18.3</b>	0.0314	16.7	0.0970
Rural	20.2	<b>29.1</b>	<0.0001	<b>25.1</b>	0.0402
Total	17.7	<b>24.4</b>	0.0008	<b>21.9</b>	0.0339

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2004-2010 National Center for Health Statistics

**Health Outcomes - Ambulatory Care Sensitive Condition Hospital Stay Rate**

**Ambulatory Care Sensitive Condition Hospital Stays per 1,000 Medicare Beneficiaries, by Rurality, 2010**



No differences were observed between border counties and all other U.S. counties including non-border counties in the four border states for hospital stays due to ambulatory care sensitive conditions. Ambulatory care sensitive conditions are diagnoses such as diabetes for which primary care of adequate quality should reduce the likelihood that an individual will need hospitalization.

**Table 40. Ambulatory Care Sensitive Condition Hospital Stay Rate per 1,000 Medicare enrollees, by Rurality and County Border Indication, 2010**

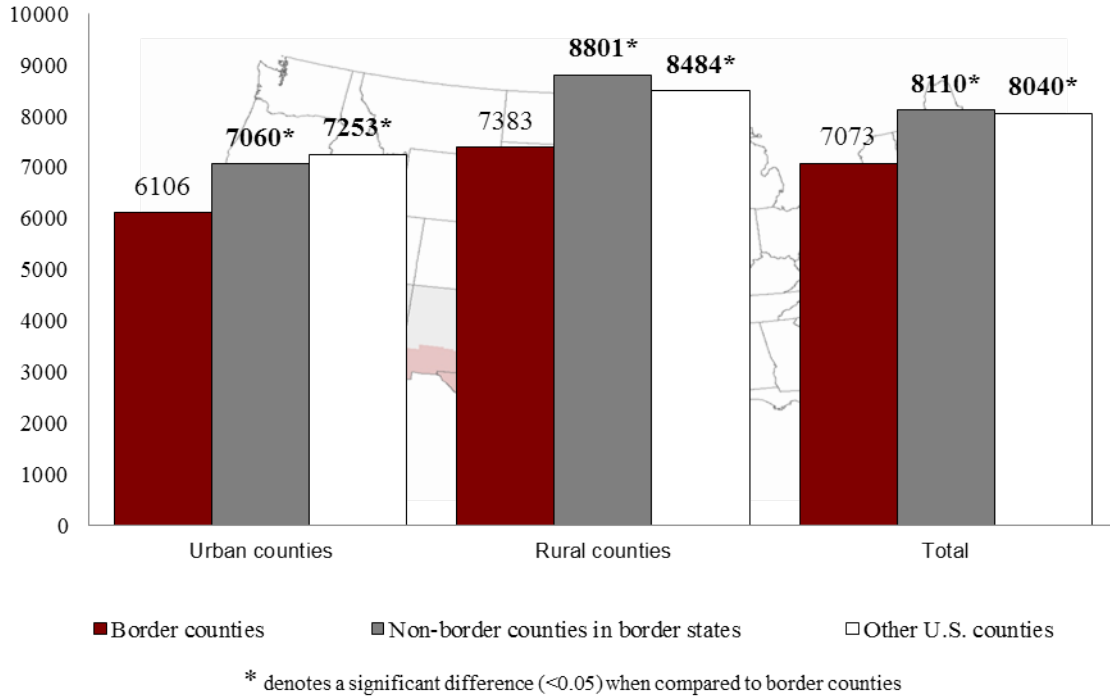
Area of Residence	County Border Indication			p-value, A to B	Other U.S. Counties (C)	p-value, A to C
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	64.3	67.7		0.6676	69.5	0.4580
Rural	94.3	84.4		0.0973	83.8	0.1154
Total	87.0	77.9		0.0655	78.7	0.1119

Data Source: 2010 Dartmouth Atlas of Health Care



## Health Outcomes - Rate of Years of Potential Life Lost

**Average Years of Potential Life Lost before Age 75 per 100,000 Population, by Rurality, 2008-2010**



Border counties averaged *significantly lower* ( $p < 0.05$ ) years of potential life lost before age 75 than other U.S. counties, including non-border counties in California, Arizona, New Mexico and Texas. Rural border counties averaged fewer years of life lost than other rural counties nationally; no significant differences were observed for urban counties.

**Table 41. Years of Potential Life Lost before age 75 per 100,000 population, by Rurality and County Border Indication, 2008-2010**

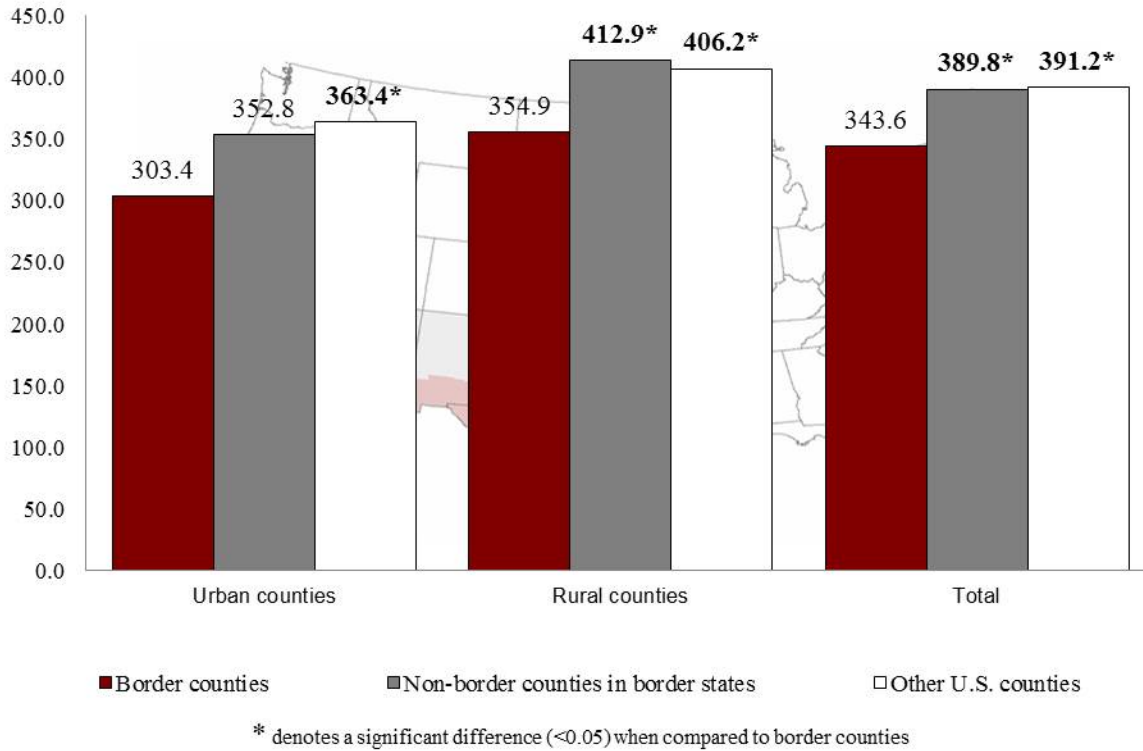
Area of Residence	County Border Indication			Other U.S. Counties (C)	<i>p-value, A to C</i>
	Border Counties (A)	Non-Border Counties in Border States (B)	<i>p-value, A to B</i>		
Urban	6106.2	7060.4	0.0944	7253.3	0.0748
Rural	7383.4	<b>8801.0</b>	0.0004	<b>8484.1</b>	0.0258
Total	7072.8	<b>8109.5</b>	0.0033	<b>8040.1</b>	0.0168

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2008-2010 National Center for Health Statistics

**Health Outcomes - Premature Age-Adjusted Mortality**

**Premature Age-Adjusted Mortality (Deaths Before Age 75 per 100,000 Population), by Rurality, 2008-2010**



Overall, the premature age-adjusted mortality rate was *significantly lower* ( $p < 0.05$ ) for border counties than other U.S. counties including non-border counties in the four border states. The same trend was observed for rural border counties. The rate for urban border counties was *significantly lower* ( $p < 0.05$ ) compared to counties outside the four border states. No differences were observed between urban border counties and urban non-border counties in the four border states.

**Table 42. Premature Age-Adjusted Mortality, by Rurality and County Border Indication, 2008-2010**

Area of Residence	County Border Indication			<i>p-value, A to B</i>	Other U.S. Counties (C)	<i>p-value, A to C</i>
	Border Counties (A)	Non-Border Counties in Border States (B)				
Urban	303.4	352.8		<b>363.4</b>	<i>0.0334</i>	
Rural	354.9	<b>412.9</b>	<i>0.0001</i>	<b>406.2</b>	<i>0.0073</i>	
Total	343.6	<b>389.8</b>	<i>0.0007</i>	<b>391.2</b>	<i>0.0030</i>	

Bold numbers indicate significant differences at  $p < 0.05$  when compared to border counties

Data Source: 2008-2010 CDC WONDER mortality data

## **Appendix A: Technical Notes**

### **Data Sources**

Data for the preceding report were obtained from the Robert Wood Johnson County Health Rankings (RWJ-CHR) data file, the U.S. Census American Community Survey, the U.S. Department of Agriculture Food Atlas and the U.S. Department of Agriculture Economic Research Service Geography of Poverty dataset.

The RWJ-CHR assembles county-level data from multiple federal and non-federal sources including the Centers for Disease Control and Prevention (Behavioral Risk Factor Surveillance System, vital statistics, chronic and communicable disease information), Census (American Community Survey; County Business Patterns), the Department of Agriculture (Food Environment Atlas), the Dartmouth Atlas and others. For several topics, the data were compiled by the sponsoring agency for the RWJ-CHR project and are not available elsewhere. RWJ-CHR data are available for download; three years of data (2010-2014) have been released thus far. This report explored demographic, social & economic factors, physical environment, health outcomes and access to health care data.

### **Key Definitions**

#### *Border States and Counties*

The four U.S. states that abut the Mexican border are Arizona, California, New Mexico and Texas. Counties within the four-state region are classified as border counties and non-border counties. Counties outside of the four-state region are referred to as counties in the non-border states. The border counties are defined by the U.S.-Mexico Border Commission.

- For Arizona, border counties are: Cochise, Pima, Santa Cruz and Yuma.
- For California, border counties are Imperial and San Diego.
- For New Mexico, border counties are Doña Ana, Grant, Hidalgo, Luna, Otero and Sierra.
- For Texas, border counties are Brewster, Brooks, Cameron, Crockett, Culberson, Dimmit, Duval, Edwards, El Paso, Frio, Hidalgo, Hudspeth, Jeff Davis, Jim Hogg, Kenedy, Kinney, La Salle, Maverick, McMullen, Pecos, Presidio, Real, Reeves, Starr, Sutton, Terrell, Uvalde, Val Verde, Webb, Willacy, Zapata and Zavala.

#### *Rurality*

County of residence was classified as urban or rural using the 2003 Urban Influence Codes of the U.S. Department of Agriculture's Economic Research Service.<sup>8</sup> The 2003 Urban Influence Codes (UIC) categorize counties into 12 groups based on population and commuting data from the 2000 Census of the Population, in the case of metropolitan counties, and adjacency to metro area in the case of nonmetropolitan counties. The 12 UICs were grouped into two categories: UICs 1 (metropolitan area with one million or more residents) and 2 (metropolitan area with less than one million residents) were classified as urban; all other counties were classified as rural.

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<sup>8</sup> Economic Research Service. Urban Influence Codes. U.S. Department of Agriculture. Available at <http://www.ers.usda.gov/Briefing/Rurality/NewDefinitions/>